

Title: Wildlife trade products available to U.S. military personnel serving abroad¹.

Corresponding author

Kretser, Heidi E., North America Program, Wildlife Conservation Society, 7 Brandy Brook Ave, Saranac Lake, NY 12983 518-891-8872, hkretser@wcs.org

Co-authors

Johnson, McKenzie F., Afghanistan Program, Wildlife Conservation Society, Kabul.
Now at Nicholas School of the Environment, Duke University, Durham, NC 27708, USA
mckenzie.johnson@duke.edu

Hickey, Lisa M., Wildlife Conservation Society, 2300 Southern Boulevard, Bronx, New York 10460 lhickey@wcs.org

Zahler, Peter, Wildlife Conservation Society, 2300 Southern Boulevard, Bronx, New York 10460 pzahler@wcs.org

Bennett, Elizabeth, L. Wildlife Conservation Society, 2300 Southern Boulevard, Bronx, New York 10460 ebennett@wcs.org

¹Kretser, H.E., M.F. Johnson, L.M. Hickey, P. Zahler, E.L. Bennett. 2012. Wildlife trade products available to U.S. military personnel serving abroad, *Biodiversity and Conservation* DOI 10.1007/s10531-012-0232-3

Abstract

Military personnel and affiliates have significant buying power that can influence demand for wildlife products. Purchase and transport of certain wildlife products violates United States laws, military regulations, and national country laws where the items were purchased. We surveyed military bazaars (n=4) in Kabul, Afghanistan from June 2007 to March 2009 to observe which species were available to soldiers. In June 2008, we conducted a pilot survey of U.S. Army personnel (n=371) stationed at Fort Drum, New York, USA, who had been deployed or stationed overseas including in Afghanistan and Iraq. Soldiers reported skins of wild felids and gray wolf *Canis lupus* as most commonly observed wildlife products available for sale in Afghanistan. Forty percent of respondents said they had either purchased or seen other members of the military purchase or use wildlife products. The U.S. military was willing to assist in curtailing supply and demand for wildlife products in order to protect soldiers from unknowingly breaking the law and to conserve wildlife in the countries where they serve. Regular, focused training of military personnel should be considered an important step to reducing trade in wildlife products by addressing both demand and market supply.

Keywords: wildlife trade, U.S. military, endangered species, CITES, Afghanistan, Iraq, war

Introduction

War can have multiple effects on natural resources, including wildlife (Homer-Dixon et al. 1993; Dudley et al. 2002; McNeeley 2003). In isolated cases, neutral or demilitarized zones with limited human activity may provide a safe haven for wildlife to proliferate (Martin and Szuter 1999; McNeely 2003). However, modern warfare practices and civil strife associated with war have made recent conflicts highly detrimental to wildlife populations, primarily because effective enforcement of regulations protecting wildlife becomes limited without rule of law (Dudley et al. 2002).

Conflict may lead to direct destruction of important habitat; for example, domestic conflicts under Saddam Hussein's regime in Iraq led to the systematic destruction of the Mesopotamia marshes on which millions of resident and migrating birds depended (Richardson and Hussain 2006). Conflict can also lead to increased direct pressure on wildlife through higher wild meat consumption, increased use of wildlife products to barter for food, arms, ammunition and other goods or services, direct sales of wildlife products, and shooting at animals as target practice. During civil wars in Rwanda and the Democratic Republic of Congo, hunting of wildlife for meat increased dramatically due to war refugees hunting for their own food and to obtain income by selling the meat in local markets (Plumptre et al. 1997; Renner 2002). The more than 30 years of conflict in Afghanistan has resulted in severe declines in wildlife populations due to the combination of increased availability of firearms, food shortages, and lack of effective law enforcement (Formoli 1995; Zahler 2005). The negative effects of war on natural resources are particularly true in countries, including Afghanistan, where most of

the population subsists on locally available resources for their livelihoods (Formoli 1995; Renner 2002; Dudley et al. 2002; Zahler 2010).

International military presence in conflict zones also enhances the potential negative impacts of war on wildlife through illicit trade and increased hunting pressure to supply that trade (Formoli 1995; Dudley et al. 2002; Pickering and Kisangi 2006). Soldiers have significant purchasing power in conflict countries and can fuel demand for wildlife products (Mishra and Fitzherbert 2004). Conservationists have become increasingly aware of the threat posed to wild species by military personnel buying wildlife products in countries where they are deployed and taking them home as souvenirs (Mishra and Fitzherbert 2004). In this paper, we examine the relationship between military presence in conflict zones (Iraq and Afghanistan) and wildlife trade to elucidate the complex relationship between human conflict and wildlife.

For more than 200 years, the U.S. has deployed military forces to multiple countries around the globe (Grimmitt 2009). Since World War II, this extensive international commitment has resulted in the long-term presence of U.S. military personnel in numerous countries with high biological and ecological significance. In fact, most modern conflict occurs in regions that are high in biodiversity (Hanson et al. 2009).

Demand for potentially illicit wildlife products by U.S. military and other personnel in Iraq and Afghanistan is a particular concern, given the strong military presence and important wildlife populations in each country. In June 2009, approximately 135,000 U.S. troops and 120,000 U.S. contractors were in Iraq, and 55,000 U.S. troops and 72,000 U.S. contractors in Afghanistan (Schwartz 2009). Iraq and Afghanistan are at the nexus of the Indomalayan and Palearctic biotic realms (Udvardy 1975) with

additional influence from the Afrotropical realm (Johnson and Wingard 2007; Zahler 2010). The diversity of habitats, from marshlands and desert to mountainous terrain, is mirrored by the diversity of flora and fauna (Earthtrends 2003b; Kanderian et al. 2011). Both countries face threats to their biodiversity including loss of habitat and wildlife trade. In Afghanistan, over 100 species of reptiles, amphibians, birds, and mammals are prohibited or restricted from trade, including the snow leopard *Panthera uncia*, leopard *Panthera pardus*, and seven other species of cat (Shank 2006). Cheetah *Acinonyx jubatus*, while locally extinct, is still traded in Afghanistan possibly from the population that exists in neighboring Iran (Shank 2006; Hunter et al. 2007; Schaller 2007). The unsettled political climate in these countries during the past three decades has made adequate field surveys of wildlife difficult or even impossible. As a result, little is known about the status of many species. Trade, legal and illegal, in wildlife products could be detrimental to local and regional wildlife populations.

In combat zones, soldiers may have limited access to areas outside of their assigned base, so they often purchase items at military bazaars, also known as post exchanges, which operate inside their bases. Goods purchased at on-base bazaars in Iraq and Afghanistan are generally less expensive than similar items found in the U.S. (e.g., carpets, hand-crafted-jewelry, antique guns, and fur coats), and can provide a significant income to local people. Among the local items offered for sale at on-base bazaars are wildlife products. In this paper, “wildlife products” refers to items comprising or made from wild terrestrial vertebrate species including, but not limited to, pelts, coats, hats, other clothing, blankets or rugs made from furs or skins, preserved mammals or birds, antlers, shells, horns, teeth, claws, or other animal trophies, meat from local mammals,

birds or reptiles, wildlife pets including wild mammals, birds, and reptiles, ivory or products containing ivory, and medicines derived from wildlife.

Military personnel who buy wildlife products overseas and import them back to the U.S. risk violating three levels of laws and regulations: U.S. laws (Endangered Species Act 2008; Lacey Act of 1900; Lacey Act Amendments of 1981), local laws of the country in which military are serving (Environment Law of Afghanistan, English translation Gazette No. 912 2007; Executive Order 2, 1388 [February 2010] NEPA), and military regulations (United States Central Command 2006; United States Defense Transportation Regulation 2009; USCENTCOM REG 600-10). They also risk violating international conventions, in particular the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 1973). The U.S. and Afghanistan are signatories to CITES, Iraq is not. Military personnel who either knowingly or unknowingly purchase, transport, import or export wildlife products of a wide range of species in Iraq and Afghanistan risk confiscation of those items and legal action under a variety of laws, potentially including fines or imprisonment.

We conducted a survey to assess the extent of demand for wildlife products by U.S. military who have served in Iraq and Afghanistan, and to determine if further work with the military is needed to inform soldiers on the possible consequences of purchasing wildlife products and bringing them home to the U.S. We also conducted on-site investigations of military bazaars in Afghanistan to assess potential wildlife products available to U.S. soldiers serving there.

Methods

In June 2008, we conducted a survey of soldiers based at Fort Drum, New York, USA. The aim was to assess U.S. military demand for wildlife products. Fort Drum is home to the U.S. Army's 10th Mountain Division and supports mobilization and training of nearly 80,000 troops annually. It is a key staging base for military personnel being deployed to Iraq and Afghanistan. Each year, Fort Drum hosts "Safety Day," an information fair where numerous organizations host booths in the base gymnasium to present important safety information for soldiers serving overseas.

WCS received permission from Command Safety on Fort Drum to conduct a short pilot survey at Safety Day. Estimates of the number of soldiers on base for "Safety Day" ranged from 2,000-3,500, many of whom had not previously served abroad; actual figures were not available from Army officials. We solicited volunteers for the survey by intercepting soldiers as they entered the gymnasium. Soldiers who agreed to take the survey were asked if they had served overseas. Those who had been deployed or stationed overseas were directed to a table where they were provided with the survey form and told that the survey was confidential and not to write their name anywhere on the survey. The self-administered, 2-page survey contained 7 questions (Appendix 1): Number of years in the military, countries in which soldier had served, if and where soldier had seen wildlife products for sale, if and where soldier had purchased wildlife products, if soldier had seen other soldiers in possession of or purchasing wildlife items, and if soldier had heard of CITES. We asked about CITES because it is the broadest, legally-binding international agreement addressing wildlife trade and many of the countries in which U.S. soldiers serve are signatories to CITES. Respondents were also

given the opportunity to provide written comments. The survey took less than 10 minutes to complete. Soldiers placed completed surveys in a box and then received a small non-monetary thank-you gift. Data from the survey were entered and analyzed in SPSS 16.0. In addition to the survey, between June 2008 and September 2009, WCS staff had the opportunity to talk with 4000-5000 pre-deployment personnel formally and informally at three training booths at Fort Drum Safety Day events, where military personnel could review training materials and see example of wildlife products. WCS staff also gave presentations to 300-400 soldiers during pre-departure training sessions at Fort Drum.

In Kabul, Afghanistan, WCS and U.S. Embassy staff conducted 10 training sessions in on-base military bazaars reaching a total of 100-150 military from June 2007 to March 2009. The aims were twofold: to obtain information on the type of wildlife products available to soldiers serving overseas; and to teach military police how to identify items listed under CITES or as protected species in Afghanistan. WCS staff, along with trained U.S. military police, also conducted market surveys (n=~50) at bazaars on military camps in and around Kabul to document wildlife products being offered for sale by on-base vendors. Camp Eggers, an American military base in the center of Kabul, was surveyed weekly from April to August 2008, then 1-2 times per month from August to December 2008, and again in March 2009. Bagram Air Field, a U.S. military base 35 kilometers northeast of Kabul, was surveyed once in August 2008 and again in March 2009. Camp Phoenix, a U.S. military base 10 kilometers from Kabul International Airport, was surveyed once in June 2007. The base headquarters of the International Security Assistance Forces (ISAF), located in central Kabul, was surveyed 1-2 times per

month from April to August 2008 and again in March 2009. The ability to survey military bazaars was based on security in Kabul and access to the bases.

For all surveys, a WCS staff member and/or a U.S. Embassy staff member walked through the bazaar with a member of the military police, checking stalls that sold any type of wildlife product. Although wildlife items could not always be positively identified due to the lack of facilities in-country and the difficulties and expense of shipping samples legally from Afghanistan, any species or species product that appeared to comprise a CITES-listed species or a species on Afghanistan's protected list was noted as a "prohibited" item by surveyors and accompanying military police. Some products, however, were relatively easy to identify (e.g., snow leopard pelts). If the surveyors suspected that an item contained parts of CITES or protected species, the vendors were asked to help identify the species if possible, and to remove the item from the stall so that no one could purchase the item. This served as a 'first warning.' If a vendor was caught re-introducing the item or with other specimens that were considered prohibited, they would lose their license for operating on base. Severity of the penalties depended on how willing bases were to impose sanctions. Illegal items were donated to the Wildlife Conservation Society for educational purposes or destroyed. WCS worked closely with the newly-formed CITES Management Authority of Afghanistan throughout the process, and kept them fully informed of the results of the surveys.

Results

We asked ~500 soldiers to participate in the Fort Drum survey. We had about an 80% response rate; 395 soldiers completed surveys, of which 371 were usable. Surveys were considered unusable if soldiers had not been previously deployed or because

soldiers failed to answer most of the questions. Respondents had served in the military for an average of 7 years, ranging from 1 to 28 years, with 51.6% having served 5 years or less. The respondents had been stationed in a total of 73 countries (Table 1). Those in which soldiers most frequently served were Afghanistan (56%), Iraq (43%), Korea (26%) Germany (23%), Kuwait (16%), and Bosnia (7%). Respondents reported seeing different types of wildlife items for sale on- and off-base in 40 countries, with most items being seen in Afghanistan (494 items seen), Iraq (211 types of items seen), and Korea (157 types of items seen) (Table 2). Respondents reported purchasing items in 13 countries, with the highest number of items from Afghanistan (82 items), Korea (23 items), and Iraq (16 items) (Table 3, Figure 1). Respondents who indicated they had seen or purchased specific types of wildlife product (e.g., furs or taxidermy wildlife specimens) might have seen or purchased more than one item, but the survey did not capture that level of detail. Overall, more than 40% of respondents had either themselves purchased or seen other soldiers purchase wildlife products. Less than 12% had heard of CITES (Figure 2).

-----INSERT TABLES and FIGURES ABOUT HERE-----

Of the 220 soldiers surveyed who had served in Afghanistan, 12% (n=27) reported that they had purchased items such as clothing, rugs, comforters, or blankets made from wildlife fur or skins. Twelve percent (n=26) reported that they had purchased meat from local wild mammals or birds, 5% (n=11) wildlife pets, 5% (n=10) ivory or items containing ivory, 4% (n=8) wildlife trophies such as horns or antlers, 1% (n=3) taxidermy wild mammals or birds, and 1% (n=2) traditional medicines allegedly made

from animal parts. Forty-nine percent (n=103) reported that they had seen other soldiers purchasing wildlife related products and 46% (n=94) had seen other members of the military in possession of such products. Only 11% (n=24) of these soldiers had heard of CITES.

Of the 160 soldiers who had served in Iraq, 6% (n=10) claimed to have purchased local wildlife meat, 3% (n=5) to have purchased wildlife furs or skins, and 1% (n=1) to have purchased ivory or products containing it. Of these soldiers, 39% (n=62) had seen others purchase wildlife products and 40% (n=63) had seen others in possession of wildlife products, and only 13% (n=21) had heard of CITES.

Numerous soldiers who had been stationed in Iraq and Afghanistan indicated that they had seen many soldiers send wildlife products home to the U.S. via APO – the military postal system. Although mail coming into the U.S. from the Military Postal Service is subject to U.S. Customs clearance (<http://hqdainet.army.mil/mpsa/index.htm>, Cited 13 Oct 2009), soldiers suggested that APO by-passed the tougher military customs screenings. These soldiers gave descriptions of the products being posted, such as “lots of sand fox pelts with heads,” “dried lizards and snakes,” and others noted that items with ivory were particularly common in Iraq. While recounting these experiences, soldiers noted that they were unaware of laws or regulations prohibiting the sale or transport of certain wildlife items or of the possible detrimental impacts of their actions.

Hundreds of wildlife items were noted in Eggers, Bagram, ISAF and Phoenix military installations in Afghanistan during on-base market surveys. For example, in April 2008, U.S. surveyors identified 230 items potentially containing CITES species in one on-base bazaar at Camp Eggers. The most common species identified by surveyors in

the military bazaars included Eurasian wolf *Canis lupus*, Eurasian lynx *Lynx lynx*, jackal *Canis aureus*, red fox *Vulpes vulpes*, Corsac fox *Vulpes corsac*, and small felid species including leopard cat *Prionailurus bengalensis* and wild cat *Felis silvestris*. At ISAF Airport, snow leopard pelts, leopard pelts, and Marco Polo sheep *Ovis ammon pollii* skulls and horns were also identified. Of these, only red fox is neither protected by CITES nor by Afghanistan laws. WCS staff also observed international aid workers and contractors purchasing wildlife products at a popular bazaar in Kabul known as ‘Chicken Street.’ Results from these market surveys confirmed similar findings by Mishra and Fitzherbert (2004) in the same bazaar.

In 2008, after a series of market surveys and wildlife trade training seminars conducted by WCS staff, the number of prohibited wildlife products witnessed for sale in military bazaars in Afghanistan declined. Once trained by WCS staff, military police began confiscating prohibited wildlife items from soldiers departing from Afghanistan. A total of 350 confiscated items was reported from Bagram Air Field and Camp Eggers at the end of August 2008 with at least 50 additional items being confiscated between July 2009 and December 2009. Confiscated items appeared to include parts of leopard cats, Pallas cats *Otocolobus manul*, black-and-white colobus monkey *Colobus guereza* (a species not found in Afghanistan), and Blandford’s fox *Vulpes cana*, all of which are listed under CITES. Military police also confiscated items apparently containing jackal, which is listed as a protected species in Afghanistan. By December 2008, very few prohibited wildlife items were identified in the market surveys in Camp Eggers’ bazaar. One vendor reported that he would stop selling furs because not only were items being confiscated but also so few soldiers were buying them at the military bases. In this

limited setting, the decrease in sale of prohibited wildlife items, along with the vendor's statement, suggest that raising awareness may be able to change consumer behavior and that changes in consumer behavior can directly affect wildlife vendors.

We found that unless training sessions and surveys continued on a regular basis or were institutionalized in induction trainings for new military police, vendors would reintroduce items when new military rotations came in and the previous group rotated out. In Afghanistan, ISAF military police rotate every six months, while U.S. troops rotate every nine months. A survey of four bases in Afghanistan, Camp Eggers, Bagram Air Field, and ISAF Headquarters and Airport, conducted by WCS in March 2009 indicated that those bases that had received regular training sessions and reminders about the consequences of purchasing prohibited wildlife items were instituting measures to curb the sale of wildlife products on-base. Those bases with limited access to training sessions for security reasons had a resurgence of product availability. After about six months without any surveys or training sessions, WCS identified six prohibited items at ISAF bazaar that had been absent when regular surveys were conducted. ISAF military police simply asked vendors to remove items from sight but did not threaten to revoke licenses. However, at Bagram Air Field, where wildlife training is now required for incoming military police, very few prohibited items infiltrate the bazaar despite infrequent surveys. Camp Eggers had very few items as well; vendors were given one chance to remove the items otherwise the military police revoked licenses on the second offense. Camp Eggers also requested continued regular training sessions for military police even though the on-base bazaar was closed for several months in 2009; for security reasons, it has been difficult for WCS staff to provide the training in person.

Discussion

Our results from the Fort Drum surveys and surveys of the markets in Afghanistan show that military personnel serving abroad purchase, transport, or have the option to purchase, many species whose local sale and/or international transportation is likely illegal. Soldiers and other military personnel appeared unaware that purchasing and transporting certain wildlife items was illegal, indicating that promoting awareness of CITES and U.S. laws might help to decrease purchase of wildlife items on military bases. Training of military police and subsequent market sweeps of on-base military bazaars appeared to be effective in limiting the wildlife products available from vendors. Military police accompanying surveyors were able to witness firsthand the large quantities of potentially illegal wildlife being sold in the bazaars and took steps to eliminate those items from the markets by confiscating products, issuing warnings, and on some of the bases threatening to revoke vending licenses.

Continued training sessions by WCS staff coupled with instituted military measures to transfer information from one rotation to the next, indicates that overall, the training has had some success in reducing the availability of wildlife products on-base – while training sessions were being conducted frequently and patrols of markets also high, the number of items being confiscated declined. However, demand still abounds in the military and many products are available off-base in Kabul and other cities around Afghanistan (Manati 2009). WCS staff saw 13 snow leopard pelts and one cheetah pelt (among other potentially illegal items) for sale on Chicken Street, Kabul, in November 2011. In August and September 2009, Bagram Air Field Military Customs seized what was thought to be a wolf pelt, a wolf hat, and a Himalayan lynx coat from soldiers who

were leaving for the U.S. Demand for wildlife apparently continues, as reflected in comments from military personnel who attended a Fort Drum training session in June 2010. These included “I packed 5 or 6 coats like this [referring to a spotted cat pelt coat], but [customs] took them all” and “they confiscate some but I hide it really well” [referring to turtle carapace and coral], and reports from military police in Afghanistan in July 2010 of a Colonel who had purchased a coat apparently made from Eurasian wolf. Our experience indicates that education and raising awareness works to reduce at least some of the demand, although not eliminate it. Persistence of demand, we believe is due to the rapid turnover of military police and also rapid turnover of soldiers serving in Afghanistan who may or may not receive pre-deployment or in-theater training about the issue of wildlife trade because the training is not required. Military personnel who have participated in the training or received some wildlife trade outreach materials recognize that trade in some items of wildlife is prohibited by military, national and international law and are seeking more training and expertise on identifying potentially prohibited wildlife parts. This underscores the need for continued outreach to U.S. military personnel using a variety of tools: in-person training sessions and presentations when possible, and online training and reminders that reach a wider audience.

Caution must be exercised in addressing the issues of wildlife trade in the military; approaches that ban certain species (e.g., cat pelts) from purchase might inadvertently increase the demand for other species. A more effective approach to addressing wildlife trade in the military might be to ban all military personnel from purchasing all wildlife products in Iraq and Afghanistan until these countries have devised effective legal structures to implement CITES and put systems in place to

provide adequate oversight of vendors working on-base or in the popular international markets. An outright ban of U.S. military personnel purchasing wildlife in Afghanistan and Iraq would underscore the importance for Afghanistan to meet its obligations under CITES and for Iraq to consider becoming party to CITES.

The data collected from the market surveys for this study have some limitations. First, the market surveys have limited value because they were unable to be conducted consistently for security reasons. Second, we were also unable to have the same people present at each market sweep mainly because we went whenever the opportunity presented itself during favorable security conditions. Third, we could not positively identify samples using genetic analysis as we were unable to ship samples from Afghanistan with proper CITES permits. Our pilot study at Fort Drum also had limitations. First, our sampling design was opportunistic; we administered the surveys when a large concentration of soldiers from one base was assembled. A random sample of a broader cross-section of military personnel including the Navy, Marines, Air Force, and Army would be ideal. Second, although our display booth and survey table were situated apart at the “Safety Day” gymnasium and we tried to issue the survey to soldiers as they entered, some soldiers bypassed the survey table initially and saw our awareness-raising booth prior to filling out the survey. This might have inflated the number of soldiers who had heard of CITES as this topic was discussed by WCS staff hosting the booth. Third, our survey asked about sensitive issues. While we did not explicitly state that some wildlife trade is illegal in the survey, those respondents who recognized that some of their activities might have been illegal might not have accurately answered the questions. Hence, the data might underestimate the extent to which military personnel

demand wildlife products. Fourth, responses to the questions pertaining to whether respondents had purchased meat from local wildlife (17.1%) or seen meat from local wildlife (50.1%) might be suspect. For example, WCS field staff based in Kabul, Afghanistan claim that most meat available on the military bases or in the local markets is mutton or goat. Two respondents indicated in written comments that the meat they consumed was goat and it is possible that other soldiers grouped livestock as wildlife. Finally, Fort Drum is notable for the 10th Mountain Division which specifically trains for military operations in remote areas of the globe; we did not ascertain the extent to which respondents taking our survey were deployed in areas where access to on-base bazaars and visitation to local markets was even possible. In this regard, the demand for wildlife products could be higher than what was found in the survey had we accounted for only those respondents who had access to markets.

Our results suggest that interventions focused on a specific group (i.e., military) and sustained over time, combined with cooperation from the group writ large (i.e., military monitoring and enforcing the base bazaars), may be able to reduce the market supply of and demand for wildlife items. Raising soldiers' awareness about wildlife protection laws and the ways they can recognize potentially illegal items in the market is critical for ultimately limiting and preventing trade in protected species from occurring (Bennett 2011). Reducing military demand for wildlife products helps to curb local poaching and hence to conserve populations of native wildlife in the countries in which the U.S. Military serves.

Acknowledgments

The authors would like to thank A. Dehgan, C. Miller, R. Raybolt, C. Dobony, B. Lauber, N. Connelly, D. Lawson, Fort Drum Command Safety, United States military police stationed at Bagram Air Field, Camp Eggers, and Camp Phoenix, and the International Security Assistance Forces in Kabul for cooperation on the written survey design and administration at Fort Drum and on-base market surveys and trainings in Afghanistan. Surveys in Afghanistan were supported by the United States Agency for International Development (USAID).

References

- Bennett EL (2011) Another inconvenient truth: the failure of enforcement systems to save charismatic species. *Oryx* 0(0):1-4
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (3 March 1973) *Treaties and Other International Agreements* 27 UST 1087; TIAS 8249; 993 UNTS 243
- Dudley JP, Ginsberg JR, Plumptre AJ, Hart JA, Campos LC (2002) Effects of war and civil strife on wildlife and wildlife habitats. *Conserv Biol* 16(2):319-329
- The Endangered Species Act, 16 U.S.C. §§ 1531-1544 (2008)
- Earthtrends (2003a) Biodiversity and Protected Areas of Iraq. *Earthtrends Country Profiles*. http://earthtrends.wri.org/pdf_library/country_profiles/bio_cou_368.pdf. Cited 10 December 2009
- Executive Order No. 2 (1388, June 2009). Environment Act, National Environmental Protection Agency, Islamic Republic of Afghanistan

Formoli TA (1995) The impacts of the Afghan Soviet war on Afghanistan's environment.

Environ Conserv 22:66-69.

Grimmitt RF (2009) Instances of use of United States Armed Forces Abroad, 1798-2008.

Congressional Research Service 7-5700/RL32170

[Ftp.fas.org/sgp/crs/natsec/RL32170.pdf](http://ftp.fas.org/sgp/crs/natsec/RL32170.pdf). Cited 14 October 2009

Hanson T, Brooks TM, Da Fonseca GAB, Hoffman M, Lamoreux JF, Machlis G,

Mittermeier C, Mittermeier RA, Pilgrim JD (2009) Warfare in biodiversity

hotspots. *Conserv Biol* 23(3):578-587

Homer-Dixon TF, Boutwell JH, Rathjens GW (1993) Environmental change and violent

conflict: Growing scarcities of renewable resources can contribute to social

instability and civil strife. *Sci Am* 268:38-45

Hunter L, Jowkar H, Ziaie H, Schaller G, Balme G, Walzer C, Ostrowski S, Zahler P,

Robert-Schaurre N. & K. Kashiri (2007) Conserving the Asiatic cheetah in Iran:

Launching the first radio-telemetry study. *Cat News* 46:8-11

Islamic Republic of Afghanistan Environment Law of 2007. Official Gazette No. 912,

Afghanistan

Johnson MF, Wingard JR (2010). *Wildlife Trade in Afghanistan*. Wildlife Conservation

Society, Kabul, Afghanistan

Kanderian N, Lawson D, Zahler P (2011): Current status of wildlife and conservation in

Afghanistan. *Internatl J of Environ Studies* 68(3):281-298

Lacey Act of 1900, 18 U.S.C. §§ 41-47

Lacey Act Amendments of 1981, 16 U.S.C. §§ 3371-3378

- Manati AR (2009) The trade in leopard and snow leopard skins in Afghanistan. *Traffic B* 22(2):57-58
- Martin PS, Szuter CR (1999) War zones and game sinks in Lewis and Clark's west. *Conserv Biol* 13(1):36-45
- McNeeley JA (2003) Conserving forest biodiversity in times of violent conflict. *Oryx* 37(2):142-152
- Mishra C, Fitzherbert A (2004) War and wildlife: a post conflict assessment of Afghanistan's Wakhan corridor. *Oryx* 38(1):102-105
- Pickering J, Kisangani EF (2006) Political, economic, and social consequences of foreign military intervention. *Polit Res Quart* 59(3):363-376
- Plumptre A J, Bizumuremyi JB, Uwimana F, Ndaruhebeye JD (1997) The effects of Rwandan civil war on poaching of ungulates in the Parc National des Volcans. *Oryx*, 31(4):265-273
- Richardson CJ, Hussain NA (2006) Restoring the Garden of Eden: an ecological assessment of the marshes of Iraq. *BioScience* 56(6):477-489
- Renner M (2002) The Anatomy of Resource Wars. WorldWatch Institute #162, Washington DC <http://www.worldwatch.org/system/files/EWP162.pdf>. Cited 26 October 2009
- Schaller G (2007) *A wildlife survey in Northwest Afghanistan*. Field Report No. 7, Wildlife Conservation Society, Kabul, Afghanistan
- Schwartz M (2009) The Department of Defense's use of private security contractors in Iraq and Afghanistan: Background, analysis, and options for Congress.

Congressional Research Service 7-5700/R40835

ftp.fas.org/sgp/crs/natsec/R40835.pdf Cited 14 October 2009

Shank CC (2006) *A Biodiversity profile of Afghanistan in 2006: a component of the National Capacity Self-Assessment (NCSA) and National Adaptation Program of Action (NAPA) for Afghanistan*. Nairobi, Kenya: United Nations Environment Programme

Udvardy MDF (1975) A classification of the biogeographic provinces of the world. *IUCN Occasional Paper* 18:1-49

United States Central Command (13 March 2006) General Order Number 1B (GO-1B). Prohibited activities for U.S. Department of Defense Personnel present within the United States Central Command (USCENTCOM) Area of Responsibility (AOR)

United States Defense Transportation Regulation (9 November 2009) 4500.9-R, Part V. (I) Restricted and Prohibited Articles (1) Restricted articles (7-8),(2) Prohibited articles (10), and (3) Agricultural restrictions and prohibitions (1-3)

Zahler P (2005) Conservation and conflict: The importance of continuing conservation work during political upheaval and armed conflict. In: *State of the Wild: A global portrait of wildlife, wildlands, and oceans*. pp. 243-249. Island Press, Washington, DC

Zahler P (2010) Conservation and governance: Lessons from the reconstruction effort in Afghanistan. In: *State of the Wild III: A global portrait of wildlife, wildlands, and oceans 2010-2011*. Island Press, Washington, DC

Table 1. List of countries in which soldiers from Fort Drum who responded to the survey were based or deployed^a.

Country Served	Number of respondents	Percentage
Afghanistan	209	56.3%
Iraq	160	43.1%
Korea	95	25.6%
Germany	86	23.2%
Kuwait	58	15.6%
Bosnia	27	7.3%
Kosovo	19	5.1%
Japan	16	4.3%
Saudi Arabia	12	3.2%
Honduras	10	2.7%
Other ^b	157	42.3%

^amany soldiers were based or deployed in more than one country during their service.

^b(63 countries in which less than 10 respondents indicated they had been based or deployed)

Table 2. The types of items, listed by country, reported being seen for sale in on-base or off-base markets by Fort Drum soldiers

Location	Furs & Skins	Taxidermy	Meat	Pets	Trophies	Ivory	Medicines	Total
Afghanistan	134	55	76	89	86	44	10	494
Iraq	50	24	40	30	37	23	7	211
Korea	38	21	29	29	25	9	6	157
United States	14	23	17	16	23	2	4	99
Germany	14	11	16	6	10	2		59
Kuwait	9	3	5	4	7	6		34
Kosovo	8	5	7	5	5	2	1	33
Thailand	3	3	5	5	4	3	4	27
Japan	3	3	3	6	2	1	3	21
Bosnia	6	2	4	3	2	1		18
Australia	3	2	3	3	3	3	1	18
Countries with less than 10 items reported ^a	25	16	26	26	20	16	4	133
TOTAL	307	168	231	222	224	112	40	1304

^aCountries listed in order of number of items reported: England, Panama, Egypt, Haiti, Philippines, Uzbekistan, Kazakhstan, Columbia, Mexico, Indonesia, Peru, Malaysia, Singapore, Saudi Arabia, Norway, Russia, Italy, Spain, Puerto Rico, India, France, Ireland, Honduras, Somalia, Macedonia, Poland, Qatar, Cuba. Fourteen items were reported from Africa, respondents did not specify the country.

Table 3. Wildlife items, listed by country, which Fort Drum soldiers reported purchasing while stationed or deployed overseas (n=143).

Country	Furs & Skins	Taxidermy	Meat	Pets	Trophies	Ivory	Medicines	Total
Afghanistan	27	3	28	11	5	6	2	82
Korea	10		8	3		2		23
Iraq	5		10			1		16
Germany	2		7					9
Africa ^a	1		1			1		3
Japan	1		1					2
United States	1		1					2
Kuwait			1					1
Bosnia			1					1
Kosovo						1		1
Norway			1					1
Australia			1					1
England			1					1
TOTAL	47	3	61	14	5	11	2	143

^A Respondents did not specify a country.

Figure 1 Types of wildlife products purchased by Fort Drum soldiers (n=143)

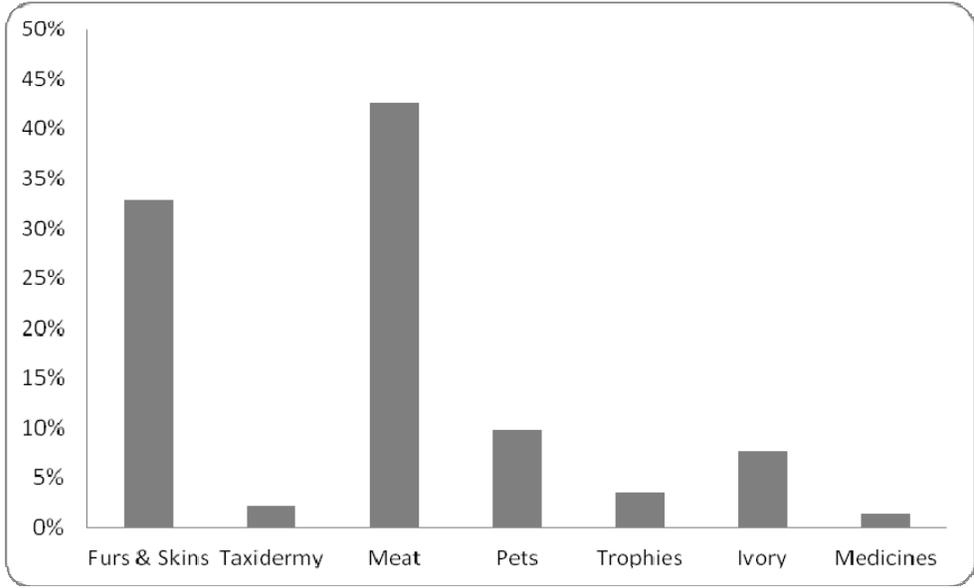
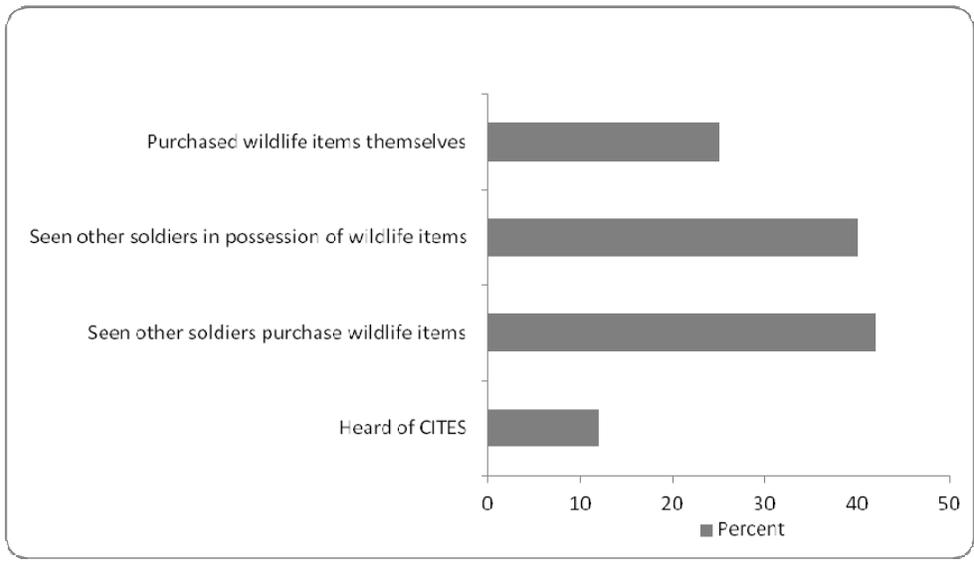


Figure 2 Fort Drum soldiers' responses about wildlife products and CITES (n=371)



Annex I. Survey

a. Front cover

U.S. Military Personnel's Experiences with Wildlife and Wildlife Products

This survey has been prepared by the Wildlife Conservation Society, a United States based international 501c3 non-profit organization operating from its flagship headquarters the Bronx Zoo.

This questionnaire explores the familiarity and encounters with the potential sale or consumption of wildlife products by United States military personnel who have been stationed overseas. If you have not been stationed overseas for the U.S. Military, you do not need to fill out this survey.

Your participation is voluntary and confidential. Accurate information is very valuable for understanding the issue and your responses are extremely important to us.

Your responses are anonymous and will never be associated with your name. Please do not sign or include any personally identifiable information on this form. Please refold the form before placing it in the box.

Overall results of this survey will be used to help the Wildlife Conservation Society and the military understand this issue and develop a program to inform soldiers of the risks of purchasing and/or importing wildlife products.

If you have any questions or concerns pertaining to this survey please contact:
Elizabeth Bennett, Ph.D.
Director, Hunting and Wildlife Trade, Wildlife Conservation Society
ebennett@wcs.org

THANK YOU FOR YOUR ASSISTANCE!

Printed on recycled paper



c. Inside

4. Have you seen other members of the U.S. military in possession of any of the items listed in question 3?

Please circle yes or no.

Yes

No

5. Have you purchased the following items while stationed abroad? Select yes or no. If yes, please list the country in which you purchased that product.

	Purchased?	Country(-ies)
a. furs or skins (clothing, rugs, comforters, or blankets made from wildlife fur or skins)	yes no	_____
b. taxidermy or stuffed wildlife or birds	yes no	_____
c. meat from local wildlife or birds.	yes no	_____
d. wildlife pets (birds, monkeys, turtles, snakes, or other wild animals)	yes no	_____
e. horns, antlers, shells, or other animal trophies	yes no	_____
f. ivory or products containing bits of ivory	yes no	_____
g. medicines from wildlife (tigers, rhinos, bears, or other animals)	yes no	_____

6. Have you seen other members of the U.S. military purchase any of the items listed above?

Please circle yes or no.

Yes

No

7. Have you heard of CITES (Convention on the International Trade in Endangered Species of Wild Fauna and Flora)?

Please circle yes or no.

Yes

No

b. Inside

ALL ANSWERS ARE CONFIDENTIAL

1. How many years have you served in the military? _____

2. In which countries have you served for the U.S. military?

Please list all countries, use back of survey if needed.

3. Have you seen the following items for sale on base or off base while stationed abroad? Please circle "yes" where you have seen the item - on base and/or off base. Then please write down the country where you saw that product for sale. If you have never seen the item, circle n/s.

	Seen On Base	Seen Off Base	Country(-ies)	Not Seen
a. Furs or skins (clothing, rugs, comforters, or blankets made from wildlife fur or skins)	yes	yes	_____	n/s
b. taxidermy or stuffed wildlife or birds	yes	yes	_____	n/s
c. meat from local wildlife or birds	yes	yes	_____	n/s
d. wildlife pets (birds, monkeys, turtles, snakes, or other wild animals)	yes	yes	_____	n/s
e. horns, antlers, shells, or other animal trophies	yes	yes	_____	n/s
f. ivory or products containing bits of ivory	yes	yes	_____	n/s
g. medicines from wildlife (tigers, rhinos, bears, or other animals)	yes	yes	_____	n/s

d. Back cover

Please use this space to include any additional remarks about your experiences with local wildlife or local wildlife products that you have had while stationed overseas for the U.S. military.

Thank you for your participation in this survey!