

# Illicit Wildlife Resource Exploitation and Transnational Criminal Organizations: A Problem for Military Planners

A Monograph

by

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## Abstract

Illicit Wildlife Resource Exploitation: A Problem for Military Planners, by MAJ Byron W. Wilson Jr., 42 pages.

This monograph explains the double negative impact of wildlife resource exploitation by transnational criminal organizations and provides an example of an operational approach to address the problem. The first case study explains the evolution of poaching enforcement during the development of natural parks in the United States. The second case study uses the Kimberley Process Certification Scheme to demonstrate how to turn the illicit trade of wildlife resources into a legitimate and profitable industry. The ultimate aim is to secure wildlife resources, deny transnational criminal organizations the opportunity to exploit wildlife resources, and enable legitimate governments to sustain wildlife populations and profit from their own natural environments.

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## Acronyms

ASEAN	Association of Southeast Asian Nations
ASEAN-WEN	Association of Southeast Asian Nations – Wildlife Enforcement Network
CCM	Chama Cha Mapinduzi
CITES	Convention on the International Trade of Endangered Species
DNA	Deoxyribonucleic Acid
DRC	Democratic Republic of the Congo
EIA	Environmental Investigation Agency
FPCS	Fauna Protection Certification Scheme
FDLR	Democratic Forces for the Liberation of Rwanda
HRD	Hoge Raad voor Diamant / Diamond High Council
IUCN	International Union for Conservation of Nature
KPCS	Kimberley Process Certification Scheme
KSH	Kenya Shilling
LRA	Lord's Republican Army
NMS	National Military Strategy
NSS	National Security Strategy
TCO	Transnational Criminal Organization
UN	United Nations
UNITA	Union for the Total Independence of Angola
USD	United States Dollars
USFWS	United States Fish & Wildlife Service
USNPS	United States National Parks Service
VEO	Violent Extremist Organizations
WDC	World Diamond Council

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## Introduction

The subject of wildlife resource exploitation has dominated media stories recently. In 2016, the US Fish and Wildlife Service (USFWS) implemented a near total ban on elephant trophies to reduce the movement of illicit ivory within the United States. On August 16, 2017, in Dar es Salaam, Tanzania, a gunman shot and killed Wayne Lotter, a leading elephant conservationist, following numerous death threats.<sup>1</sup> In November 2017, the Trump administration decided to lift the import ban on trophies from elephants killed in Zimbabwe and Zambia.<sup>2</sup> Immediate outcries from conservationists led the administration to keep the old policy in place in order to allow additional time to review the proposed policy change.<sup>3</sup> In 2018, China embarked upon the new year by banning all domestic ivory trade. China's policy change seeks to close the door on one of the world's largest illicit ivory markets. Ginette Hemley, the senior vice president of the World Wildlife Fund, stated, "Decades from now, we may point back to this as one of the most important days in the history of elephant conservation."<sup>4</sup> Then on February 4, 2018, an attacker stabbed and murdered Esmond Bradley Martin, a leading ivory investigator, in his home in Nairobi, Kenya.<sup>5</sup>

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<sup>1</sup> Sophie Tremblay, "Leading Elephant Conservationist Shot Dead in Tanzania," *The Guardian*, August 17, 2017, accessed February 14, 2018, <https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania>.

<sup>2</sup> Niraj Chokshi, "Trump Administration to Lift Ban on 'Trophy' Elephant Imports," *New York Times*, November 16, 2017, accessed January 4, 2018, <https://www.nytimes.com/2017/11/16/world/africa/trump-elephant-trophy.html>.

<sup>3</sup> Emily Cochrane, "For Now, Trump to Keep Ban on Importing Elephant Trophies," *New York Times*, November 17, 2017, accessed January 4, 2018, <https://www.nytimes.com/2017/11/17/us/politics/trump-elephant-trophy-ban.html>.

<sup>4</sup> Colin Dwyer, "China's Ban On Its Domestic Ivory Trade Takes Effect," *National Public Radio*, January 1, 2018, accessed January 4, 2018, <https://www.npr.org/sections/thetwo-way/2018/01/01/574952304/chinas-ban-on-its-domestic-ivory-trade-takes-effect>.

<sup>5</sup> Bibi van der Zee, "Top Ivory Investigator Murdered in Kenya," *The Guardian*, accessed February 14, 2018, <https://www.theguardian.com/environment/2018/feb/05/leading-ivory-trade-investigator-killed-in-kenya>.

In addition to fears about wildlife degradation, there are many reasons why contemporary operational planners should remain informed about wildlife resource exploitation by terrorist and transnational criminal organizations (TCOs). Illicit wildlife resource exploitation is a high payoff and low risk activity. The financial payoff is high, while the risks of detection and punishment remain low.<sup>6</sup> The financial drivers behind illegal trade in wildlife include rarity, luxury, rising demand due to fashion trends, and alleged medicinal properties.<sup>7</sup> More worrisome, however, is the growing evidence that organized criminal elements and terrorist organizations are engaging in the illegal wildlife trade.<sup>8</sup> Organized criminal groups use existing smuggling routes for the illicit movement and trade of small arms, drugs, and humans as well as to smuggle scarce, but valuable, wildlife resources for financial gain.

Legal wildlife resource trade can provide a valuable source of revenue to developing countries. However, when trading is regulated by international bans and prohibitions, it creates ample opportunities for lucrative illegal trade.<sup>9</sup> In 2007, researchers in the United Kingdom estimated that fifty percent of criminals prosecuted for wildlife crimes had previous convictions for crimes involving drugs and firearms. The links between organized criminal groups and wildlife resource exploitation are clear and straightforward.<sup>10</sup> The revenue generated from wildlife resource exploitation is a form of threat finance. Threat finance encompasses the means and methods used by organizations, such as foreign terrorist organizations, narcotics and human

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<sup>6</sup> Dee Cook, Martin Roberts, and Jason Lowther, *Organised Crime: A Review of the Evidence and the Role of the UK* (Godalming, UK: University of Wolverhampton, 2002): 6.

<sup>7</sup> *Ibid.*, 7.

<sup>8</sup> *Ibid.*, 11, 14, 15.

<sup>9</sup> *Ibid.*, 6.

<sup>10</sup> Adrian Levy and Cathy Scott-Clark, "Poaching for Bin Laden," *The Guardian*, May 4, 2007, accessed September 18, 2017, <https://www.theguardian.com/world/2007/may/05/terrorism.animalwelfare>.

traffickers, transnational criminal organizations, and cyber criminals, to finance operations and activities that pose a threat to U.S. national security.<sup>11</sup>

Addressing the threat of wildlife resource exploitation requires a two-pronged solution, which this monograph will describe. The first prong involves the development of a national or domestic capability to police ungoverned spaces and other habitats where terrorists and criminal elements exploit wildlife resources, such as national parks. The second prong of the solution requires international control, in the form of a mechanism similar to the Kimberley Process Certification Scheme (KPCS), developed by independent corporations to counter “blood diamonds.”

This monograph is divided into four sections. Section I highlights the national security implications of unchecked wildlife resource exploitation. Section II then provides a case study of the measures taken to secure wildlife resources by the US government in Yellowstone National Park following its creation. Section III is an overview of the Kimberley Process Certification Scheme used to deny the entry of “blood diamonds” into the legal diamond market. The conclusion highlights the necessity of combining the components of enhanced physical security and tighter market control in order to closely manage wildlife resources and prevent the exploitation of wildlife resources by TCOs.

## Section I: National Security Implications

Since 2008, the United States has taken measures to address international wildlife exploitation with a multi-pronged effort. Initiatives included training for African, Asian, and South American partners provided by the USFWS, which conducted training programs to share wildlife enforcement expertise with global counterparts and forged partnerships with nonprofit

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<sup>11</sup> “Threat Finance,” *American Security Project*, accessed February 25, 2018, <https://www.americansecurityproject.org/asymmetric-operations/threat-finance-and-financial-intelligence/>.

conservation groups.<sup>12</sup> The Department of Justice also contributed by training judges and prosecutors on methods of prosecuting crimes involving trade in illegally harvested wildlife.<sup>13</sup> However, the USFWS would like to orient their future training efforts towards inspectors and special agents to increase their capacity to monitor, investigate, coordinate, and communicate with other agencies to reduce illegal wildlife trade.<sup>14</sup>

In 2015, combatting illicit wildlife trade became part of US national security policy. The 2015 National Security Strategy (NSS) highlighted US intentions to seek new opportunities for partnership and investment in Africa to combat violent extremists who seek to exploit weak governance and social upheaval in the region.<sup>15</sup> The United States recognizes that terrorist organizations have gained traction in areas of instability and weak governance and that those organizations range from Africa to South Asia.<sup>16</sup> The United States pledged in the 2015 NSS to “strengthen the operational capacity of regional organizations like the African Union and broaden the ranks of troop-contributing countries, including through the African Peacekeeping Rapid Response Partnership, which will help African countries rapidly deploy to emerging crises.<sup>17</sup>” The NSS continued: “we will continue to work closely with governments, the private sector, and civil society to foster inclusive economic growth, reduce corruption, and build capacity at the local level. Investment in critical infrastructure and security will facilitate trade.”<sup>18</sup> As indicated

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<sup>12</sup> Kevin R. Adams, *Office of Law Enforcement Strategic Plan 2006-2010* (Washington, DC: US Fish & Wildlife Service, 2005), 5.

<sup>13</sup> Liana S. Wyler and Pervaze A. Sheikh, “International Illegal Trade in Wildlife: Threats and US Policy” *CRS Report for Congress* (March 3, 2008), 36.

<sup>14</sup> “What is CITES,” *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, last modified February 4, 2018, accessed February 5, 2018, <https://www.cites.org>.

<sup>15</sup> Barack Obama, *National Security Strategy* (Washington, DC: The White House, February 2015), 1.

<sup>16</sup> *Ibid.*, 9.

<sup>17</sup> *Ibid.*, 11.

<sup>18</sup> *Ibid.*

above, several African nations are in dire need of assistance to reduce government corruption and build security capacity.

The 2015 US National Military Strategy (NMS) stated that Violent Extremist Organizations (VEO) seek to radicalize populations, spread violence, and leverage terror to impose their ideologies and visions of societal organization. The NMS continues: “In many locations, VEOs coexist with TCOs, where they conduct illicit trade and spread corruption, further undermining security and stability.”<sup>19</sup> The role of the military and police is to provide a secure environment that permits political stability and enables economic growth. Unfortunately, the legitimacy and professionalism of several African militaries have been compromised, enabling TCOs and VEOs to exploit wildlife in ungoverned spaces.

Joint Publication 3-03, *Joint Interdiction*, describes how US military forces support law enforcement interdiction, which consists of activities conducted to divert, disrupt, delay, intercept, board, detain, or destroy, under lawful authority, vessels, vehicles, aircraft, people, cargo, and money.<sup>20</sup> The manual also discusses the structure of a Joint Task Force tasked to conduct Joint Interdiction, mission planning, and the execution of interdiction operations. However, there is no United States, foreign, or multinational organization in existence with the authority and assembled capability to conduct counter-poaching activities, naval interdiction, and customs inspections. It would behoove policymakers to define an end state for the protection of wildlife resources against TCO exploitation, and to establish metrics for measuring effectiveness.

Since the United States does not have the authority or capacity to address world-wide wildlife exploitation, international cooperation is imperative in order to halt and deter the illegal culling of wildlife resources. Several organizations and laws that address the exploitation of

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<sup>19</sup> Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America* (Washington, DC: Government Printing Office, 2015), 3.

<sup>20</sup> US Joint Chiefs of Staff, Joint Publication (JP) 3-03, *Joint Interdiction* (Washington, DC: Government Printing Office, 2016), I-1.

wildlife resources already exist, but they lack enforcement mechanisms across international boundaries. The most notable organizations are the Convention on the International Trade of Endangered Species (CITES) and the Association of Southeast Asian Nations Wildlife Enforcement Network (ASEAN-WEN). The CITES home page explains its function as an international agreement to which nations and regional economic integration organizations adhere voluntarily. Although CITES is legally binding, it does not take the place of national laws, but rather provides a framework under which member states can adopt their own domestic legislation to ensure implementation of CITES agreements.<sup>21</sup> The way CITES operates is by subjecting the international trade of selected species to certain control measures. The CITES convention authorizes all import and export of species through a licensing system. Every member nation to the CITES convention must designate one or more management authorities to administer the licensing process (government official), and one or more scientific authorities (scientific professionals) to advise the licensing authority on the effects of trade on a given species.<sup>22</sup> The concept of CITES was developed in 1963 and signed on March 3, 1973. Initially, CITES had eighty signatory member nations; now it has 183 member nations.<sup>23</sup> However, many analysts observe that CITES is limited in its ability to monitor illegal wildlife trade and to enforce member states' compliance with the provisions of the treaty.<sup>24</sup> CITES also lacks the financial or manpower resources to monitor global illegal wildlife trade or impose criminal penalties on violators at the international level. As a result, CITES relies on member nations to enforce their

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<sup>21</sup> "What is CITES," *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, accessed January 10, 2018, <https://www.cites.org>.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Duncan Brack and Gavin Hayman, "International Environmental Crime: The Nature and Control of Environmental Black Markets," *The Royal Institute of International Affairs Sustainable Development Program* (May 27, 2002): 5.

own laws and penalties against violators. Unfortunately, members of CITES are unable to enforce wildlife trade laws and the penalties associated with those laws.

In December 2005, ASEAN launched the ASEAN-WEN with the aim of addressing illegal exploitation and trade in CITES-listed species within the ASEAN region. ASEAN-WEN intends to “promote networking amongst relevant law enforcement authorities in ASEAN countries to curb illegal trade in wild fauna and flora through an integrated network of law enforcement agencies, customs, police, prosecutors, wildlife-law enforcement organizations, and other relevant national law enforcement agencies.”<sup>25</sup> Despite its best efforts, ASEAN-WEN is ill equipped to meet the challenges of rapidly changing illicit transit corridors, ever evolving smuggling techniques, and the increasingly sophisticated nature of financial transactions. Ultimately, while illicit wildlife trade continues to expand and generate billions of dollars each year, the security threat to the United States and the international community remains difficult to assess. As the threat increases, the need for effective international cooperation, enforcement, and authority will increase.

Illegal international wildlife trade became a pressing global concern in the 1970s when animal scientists identified rapid population decline of elephants and rhinoceros populations. Conservationists quickly lobbied to extend legal frameworks to protect endangered species and inaugurate a global awareness campaign. They considered loosely enforced local protection efforts of endangered species and international import measures against wildlife resources, such as ivory, rhinoceros horns, hides, and furs, to be successful from the 1980s to the early part of the twenty-first century because populations of some endangered species were on the rise.<sup>26</sup> In the last two decades, there has been a sharp rise in the value of wildlife resources, so endangered

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<sup>25</sup> “ASEAN-WEN,” *ASEAN Cooperation on Environment*, last modified December 8, 2017, accessed February 5, 2018, <http://environment.asean.org/>.

<sup>26</sup> Sharon Begley, “Extinction Trade: Endangered Animals are the New Blood Diamonds as Militias and Warlords use Poaching to Fund Death,” *Newsweek*, March 1, 2008, accessed September 12, 2017, <http://www.sharonbegley.com/big-business-wildlife-trafficking>.

species that were recovering in the 1980s are now again threatened. TCO's participation in the lucrative realm of wildlife exploitation has added several more species to the International Union for Conservation of Nature (IUCN) list of endangered species. The IUCN list has seven categories: least concern, near threatened, vulnerable, endangered, critically endangered, extinct in the wild, and extinct.<sup>27</sup>

There are currently five living species of rhinoceros. In 2011, scientists declared the African western black rhino, a subspecies of black rhino, to be extinct. The northern white rhino, a subspecies of white rhino, is extinct in the wild with the remaining three members of its species living under twenty-four hour guard at the Ol Pejeta Conservancy in Kenya. The Sumatran, Java, and Black Rhinoceros are critically endangered. The Sumatran and Java species are down to double-digit populations.<sup>28</sup>

The deficiencies in local law enforcement and international deterrence measures have improved because of the plight of rhinoceroses. However, the adjustments made after the decline of the rhinoceroses remain insufficient to prevent the same fate for the world's elephant population. A solution requires a global effort to reduce wildlife resource exploitation, which is no small challenge for policymakers. The consumption of wildlife resources has caused the population of several species to decrease rapidly in the last generation, prompting the value of certain wildlife resources to skyrocket.

The case of the African Elephant provides an example of the complex relationship between conservation, protection, and exploitation. In the 1970s, there were roughly 1.2 million African elephants, but as of 2018, their numbers had plummeted to less than 415,000, a reduction

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<sup>27</sup> "Endangered Species," *International Union for Conservation of Nature*, last modified May 2017, accessed February 1, 2018, <http://www.iucnredlist.org/>.

<sup>28</sup> "Rhinoceros," *World Wildlife Fund*, last modified February 27, 2017, accessed February 22, 2018, <https://www.worldwildlife.org/species/rhino>.

of sixty-five percent in less than fifty years.<sup>29</sup> Some scientists argue that the population of African elephants dropped to as low as 250,000 by 2015.<sup>30</sup> This decline has inflated the price of ivory. For example, ivory was worth \$100 per kilogram in the 1990s.<sup>31</sup> In 2004, elephant ivory spiked to \$200 per kilogram. In 2007, elephant ivory was worth \$750 per kilogram.<sup>32</sup> In 2010, elephant ivory was worth \$1,500 per kilogram and, in 2015, it jumped to \$2,142 per kilogram.<sup>33</sup>

At those values, wildlife resource exploitation is no longer just a matter of species preservation. It is also an issue of international security because TCOs and terrorist organizations have entered the industry of wildlife trade and gained proficiency at circumventing detection and quickly turning a profit. The most recent reports indicate that another species, pangolins, are highly threatened, as they are the most trafficked animal in the world.<sup>34</sup> The pangolin, whose habitat is in Africa and southern Asia, shares a similar habitat as elephants and rhinos and resembles a combination of an anteater and an armadillo. It is valued for its scaly, armor-like skin. In 2016, criminals sold illegally harvested pangolins from Africa and Southeast Asia at \$200 per kilogram and could fetch over \$3000 per animal.<sup>35</sup> Currently, there are eight living species of

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<sup>29</sup> “African Elephant,” *World Wildlife Fund*, last modified January 31, 2018, accessed February 21, 2018, <https://www.worldwildlife.org/species/african-elephant>.

<sup>30</sup> Jane Edge, “Elephant Charities: The Good, the Bad, and the Ugly,” *Africa Geographic Magazine*, (April 2015), 42, accessed January 10, 2018, <http://magazine.africageographic.com/weekly/issue-42/elephant-charities-the-good-the-bad-the-ugly/>.

<sup>31</sup> Dan Koehl, “Value of Elephant Ivory,” Save the Elephants, accessed January 8, 2018, <http://www.elephant.se/ivory.php>.

<sup>32</sup> *Ibid.*

<sup>33</sup> “Value of Elephant Ivory,” Poaching Facts: Truths from the Front Line, accessed January 8, 2018, <http://www.poachingfacts.com/faces-of-the-poachers/buyers-of-elephant-ivory/>.

<sup>34</sup> Channing May, “Transnational Crime and the Developing World,” *Global Financial Integrity* (March 2017), 53, accessed November 22, 2017, [http://www.gfinitegrity.org/wp-content/uploads/2017/03/Transnational\\_Crime-final.pdf](http://www.gfinitegrity.org/wp-content/uploads/2017/03/Transnational_Crime-final.pdf).

<sup>35</sup> Christina Vallianos, “Pangolins on the Brink,” *Wild Aid* 14, last modified September 21, 2016, accessed February 28, 2018, <http://wildaid.org/wp-content/uploads/2017/09/WildAid-Pangolins-on-the-Brink.pdf>.

pangolins: two of which are critically endangered, two of which are endangered, and the remaining four are vulnerable.<sup>36</sup>

The decline of certain species, as well as the increasing value of poached products, has led illegal wildlife trade to seize a greater share of the overall market. Legal wildlife trade was valued at \$22.8 to \$25 billion per year in 2005, while illegal wildlife trade estimates were at \$7.6 to \$8.3 billion.<sup>37</sup> By 2017, illegal wildlife trade was estimated at up to \$23 billion per year and the demand for illegal wildlife resources continues to soar.<sup>38</sup> Illegal wildlife trade jeopardizes legal wildlife trade, especially wildlife tourism. In Kenya, wildlife tourism generated over \$400 million per year in the 1990s.<sup>39</sup> For example, the US National Park service hosted 330.9 million visitors in 2016, netted \$18.4 billion in revenue, and supported 318,000 jobs, with a cumulative benefit to the US economy of \$34.9 billion.<sup>40</sup> Kenya, which now has one of the most efficient and revenue producing park systems in all of Africa, earned roughly \$2.18 billion in tourism in 2015 and was forecasted to net \$2.28 billion in 2016.<sup>41</sup> The 2016 Gross Domestic Product (GDP) of Kenya was 70.5 billion US dollars (USD), which is much higher than many other central and sub-Saharan African countries. In comparison, the 2016 GDP for Tanzania was \$47.4 billion USD, the Democratic Republic of the Congo \$35 billion USD, Uganda \$25.5 billion USD, and South

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<sup>36</sup> “Pangolins,” *The International Union for Conservation of Nature Red List of Threatened Species*, last modified March 31, 2018, accessed February 1, 2018, <http://www.iucnredlist.org/>.

<sup>37</sup> Jeremy Haken, “Transnational Crime in the Developing World,” *Global Financial Integrity* (February 2011), 11, accessed September 12, 2017, <https://illicittrade.com/reports/downloads/Transnational-Crime-In-The-Developing-World.pdf>.

<sup>38</sup> May, “Transnational Crime and the Developing World,” 53.

<sup>39</sup> Leo R. Douglas and Kelvin Alie, “High-Value Natural Resources: Linking Wildlife Conservation to International Conflict, Insecurity, and Development Concerns,” *Biological Conservation* 171 (January 2014): 270-277.

<sup>40</sup> Morgan Warthin, “Tourism to Yellowstone National Park Creates \$680.3 Million in Economic Benefits.” *National Park Service*, last modified April 21, 2017, accessed September 28, 2017, <https://www.nps.gov/yell/learn/news/17020.htm>.

<sup>41</sup> “Kenya Economic Outlook 2017: Joining the Dots,” *Deloitte Touche Tohmatsu Limited*, (Spring 2017): 21, accessed November 22, 2017, <https://www2.deloitte.com/content/dam/Deloitte/ke/Documents/tax/Economic%20outlook%20ke%202017%20Final.pdf>.

Sudan \$9 billion USD. Other African nations are missing an opportunity to generate substantial revenue from wildlife tourism. Wildlife tourism represents a renewable resource for undeveloped countries to generate significant income. Unfortunately, many African nations in the future may lose the opportunity to capitalize on the market for licit wildlife resources due to the criminal exploitation of wildlife resources. To further compound the situation, the criminal component erodes social and human capital by degrading the quality of life by driving business away and increasing the cost of doing business for both foreign and domestic investors due to corruption.<sup>42</sup> Corruption undermines governments by weakening the trust of the people towards institutions and legal norms.

Not only are animal species at increased risk, but over 100 park rangers are also killed every year defending wildlife in Africa and Southeast Asia.<sup>43</sup> TCOs, like the Janjaweed, attack park rangers at Zakouma National Park in Chad.<sup>44</sup> Park rangers at Garamba National Park in the Democratic Republic of the Congo (DRC) frequently find themselves in battle with Janjaweed fighters attempting to obtain ivory.<sup>45</sup> Poachers have used machine guns and rocket launchers against park rangers in Kenya and the Central African Republic.<sup>46</sup> The violence is especially alarming due to reports indicating ties between Janjaweed and Al Qaeda.<sup>47</sup> In many locations,

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<sup>42</sup> Antonio Mazzitelli, "Transnational Organized Crime in West Africa: The Additional Challenge." *International Affairs* 83, no. 6 (2007): 1071-1090.

<sup>43</sup> "Park Rangers On the Frontline Being Killed at an Astonishing Rate from India to Thailand to Africa," *Global Conservation*, last modified March 31, 2016, accessed February 28, 2018, <http://globalconservation.org/news/park-rangers-frontline-being-killed-astonishing-rate-new-solutio/>.

<sup>44</sup> Begley, "Extinction Trade."

<sup>45</sup> Jeffrey Gettleman, "Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits," *New York Times*, September 3, 2012, accessed September 17, 2017, <http://www.nytimes.com/2012/09/04/world/africa/africas-elephants-are-being-slaughtered-in-poaching-frenzy.html?mcubz=0>.

<sup>46</sup> Wylar and Sheikh, "International Illegal Trade in Wildlife," 22.

<sup>47</sup> Douglas Farah, "Intelligence Report Links Al Qaeda to Janjaweed in Sudan," *The Douglas Farah Blog*, December 19, 2006, accessed September 16, 2017, <http://blog.douglasfarah.com/article/75/intelligence-report-links-al-qaeda-to-janjaweed-in-sudan>.

VEOs coexist with TCOs, where they conduct illicit trade and spread corruption, undermining security and stability.<sup>48</sup>

Corruption involving African government officials undermines citizens' faith in institutions and undermines the rule of law. In 2005, according to Transparency International's Corruption Perceptions Index, Tanzania ranked 88th out of 158 countries. However, by 2016, Tanzania had fallen to 116 out of 176 countries.<sup>49</sup> Pervasive corruption between TCOs and government officials across East Africa enables traffickers to utilize ports with weak controls to transport illicit resources.<sup>50</sup> Congolese park rangers, claiming their salaries were too low to live on, poached the very animals their government entrusted them to protect.<sup>51</sup> Research implicated members of the Ugandan military and South Sudanese military for poaching and illegal ivory distribution as well.<sup>52</sup> In 2012, a Kenyan Wildlife Service ranger was involved in poaching a rhinoceros.<sup>53</sup> Kenya Wildlife Service scouts earn as low as 20,000 Kenyan shillings (KSH), or \$197 USD per month, while the most experienced rangers can earn up to 180,000 KSH per month, or \$1,777 USD per month.<sup>54</sup> The low annual salaries indicate that the likely reason for the ranger's transgression was the value of rhino horns had risen to \$65,000 per kilogram. A rhino horn can weigh up to three kilograms, which means the total value of a rhinoceros horn could be

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<sup>48</sup> US Chairman of the Joint Chiefs of Staff, *National Military Strategy*, 3.

<sup>49</sup> "Tanzania," Transparency International, last modified January 25, 2017, accessed February 4, 2018, [https://www.transparency.org/news/feature/corruption\\_perceptions\\_index\\_2016](https://www.transparency.org/news/feature/corruption_perceptions_index_2016).

<sup>50</sup> UNDOC, "*Transnational Organized Crime in Eastern Africa: A Threat Assessment*," United Nations Office on Drugs and Crime (Vienna, Austria: United Nations Office on Drugs and Crime, 2013): 8.

<sup>51</sup> Gettleman, "Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits."

<sup>52</sup> Ibid.

<sup>53</sup> Kibiwott Koross, "We Will Contain Poaching - KWS director Julius Kipng'etich," *The Star*, 23 April 2012, <http://www.the-star.co.ke/news/article-21389/we-will-contain-poaching-kws-director-julius-kipngetchi>.

<sup>54</sup> "Kenya Wildlife Services Salaries," Fixus Jobs, last modified August 6, 2016, accessed March 12, 2018, <https://www.fixusjobs.com/kenya-wildlife-service-kws-salaries/>.

equivalent to eighty-two years of annual salary for the lowest paid Kenyan Wildlife Service members.<sup>55</sup>

More concerning than the corruption of those entrusted to protect wildlife resources is corruption amongst the policymakers with the power to allocate funds and enact legislation. When Tanzania's former President, Jakaya Kikwete, assumed office in 2005, there were roughly 142,000 elephants in the country. By the end of his term in 2015, the population had fallen to roughly 55,000.<sup>56</sup> In 2007, Tanzania was set to request permission from the CITES for the release of ivory stockpiles for sale. The Environmental Investigation Agency (EIA) showed Khamis Kagasheki, the former Tanzanian Minister for Natural Resources and Tourism, a report detailing the complicity of a range of Tanzanian government officials in the illegal ivory trade. The EIA report highlighted the Chama Cha Mapinduzi (CCM), a political party in Tanzania, for having business ties to Safari companies owned by family members of the CCM Chairman. Additionally, the 2007 EIA report also identified four members of parliament suspected of participating in poaching. The parliamentarians were from the Selous region of Tanzania, the region that suffered the most drastic decline in the elephant population.<sup>57</sup> Tanzania promptly withdrew their request to sell ivory stockpiles.<sup>58</sup> Eight successful interdictions of Tanzanian ivory from 2009 to 2014 involved over 26.5 tons of ivory. Researchers estimated that it took roughly 4,000 elephants to produce the 26.5 tons. These cases resulted in just one criminal conviction.<sup>59</sup> Corruption

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<sup>55</sup> Michael T. Sas-Rolfes, "The Rhino Poaching Crisis: A Market Analysis," *Save the Rhino Trust*, February 2012, accessed March 12, 2018, <http://savetherhinotrust.org/component/content/article/7-rhino-news/84-the-rhino-poaching-crisis-amarke-analysis>.

<sup>56</sup> Environmental Investigation Agency, *Vanishing Point: Criminality, Corruption, and the Devastation of Tanzania's Elephants* (London: Emmerson Press, 2014) 9.

<sup>57</sup> *Ibid.*, 13.

<sup>58</sup> *Ibid.*, 12.

<sup>59</sup> *Ibid.*, 14.

undermines faith in government and rule of law and creates an environment of lawlessness in which malign actors can thrive.

Robert Putnam's concept of the two-level game elucidates the dilemma local leaders and national leaders face in Africa and Southeast Asia when it comes to economic opportunities related to the exploitation of wildlife resources.<sup>60</sup> Putnam's theory describes the complexity of political narratives that attempt to appease or influence local constituencies, while at the same time addressing external constituencies with either complimenting or competing narratives. Tribal leaders are conflicted between permitting their tribesmen to profit by facilitating illegal poaching and smuggling, while at the same time appeasing their national governments and international organizations concerned with conservation and tourism. Similarly, national level leaders in countries where wildlife resource exploitation by TCOs occurs contend with the problem of appeasing their constituencies at present in order to maintain the peace and retain power, while at the same time attempting to adhere to United Nations Educational, Scientific and Cultural Organization regulations on the trade of wildlife resources.

The list of TCOs and terrorist organizations implicated in wildlife resource exploitation include the Janjaweed, Democratic Forces for the Liberation of Rwanda (FDLR), The Lord's Resistance Army (LRA), Al Shabab, Harakat ul-Jihad-i-Islami, and Jamaatul Mujahedin. Janjaweed operates in South Sudan and the DRC, where they poach elephant and rhinoceros in the Garamba National Park.<sup>61</sup> The ivory obtained by Janjaweed is destined for markets in Asia, while the rhinoceros horns are used for dagger handles in the Middle East. The FDLR are Hutu extremists tied to the ethnic genocide of the Tutsi people. The FDLR financed their atrocities by poaching baby gorillas from the Congo, selling them on the black market in exchange for assault

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<sup>60</sup> Robert Putnam, "Diplomacy and Domestic Politics: The Logic of Two-Level Games," *The MIT Press* 42, no. 3 (Summer 1988): 427-460.

<sup>61</sup> Begley, "Extinction Trade."

rifles.<sup>62</sup> Al Shabab, the Somali militant Islamist group which pledged allegiance to Al Qaeda, has poached elephants in Sudan, the DRC, and Kenya.<sup>63</sup> The LRA, led by the infamous Joseph Kony, is also involved in illegal wildlife resource exploitation in the Garamba National Park, smuggling illicit trophies out of the airport in Entebbe, Uganda. The map in Figure 1 depicts the broad flow of threat finance, but it also highlights the operating areas for Al Shabab, Janjaweed, Boko Haram, and other TCOs in Africa.



Figure 1. “Libya: A Growing Hub for Criminal Economies and Terrorist Financing in the Trans-Sahara,” *The Global Institute Against Transnational Organized Crime* (May 2015): 2, accessed February 11, 2018, [http://globalinitiative.net/wp-content/uploads/2015/05/TGIATOC-Libya\\_a-growing-hub-for-Criminal-Economies-and-Terrorist-Financing-in-the-Trans-Sahara-web.pdf](http://globalinitiative.net/wp-content/uploads/2015/05/TGIATOC-Libya_a-growing-hub-for-Criminal-Economies-and-Terrorist-Financing-in-the-Trans-Sahara-web.pdf).

<sup>62</sup> Begley, “Extinction Trade.”

<sup>63</sup> Gettleman, “Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits.”

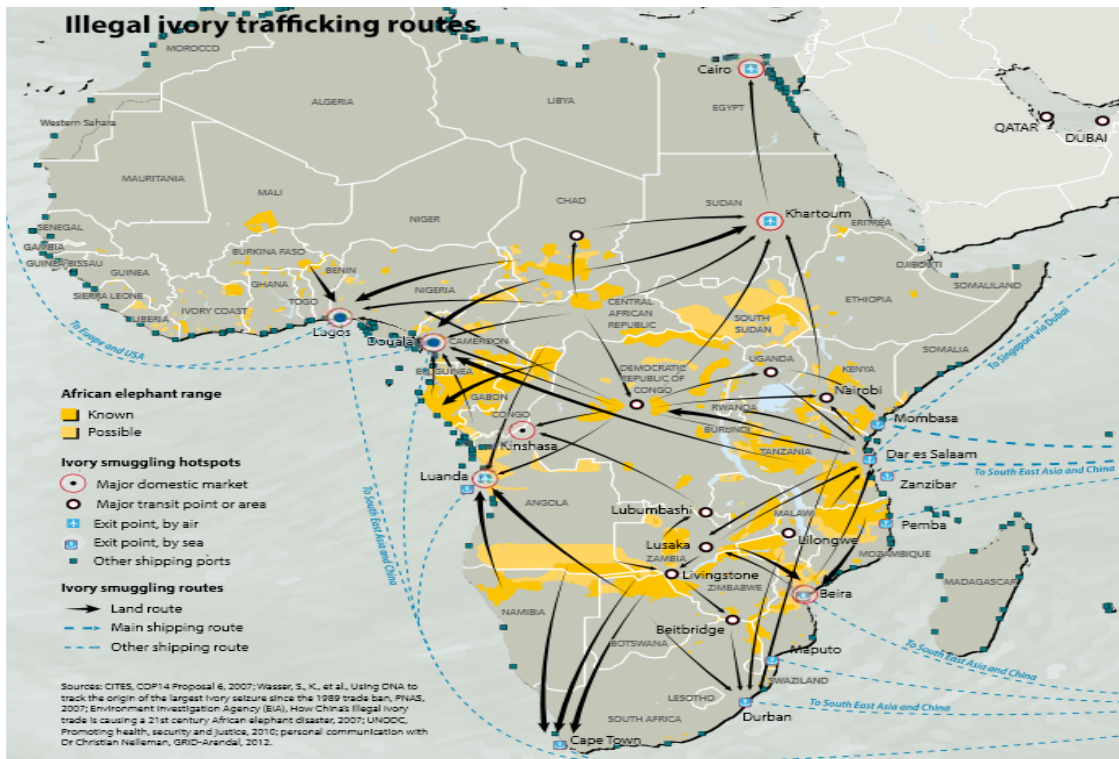


Figure 2. Christian Nellerman, “Elephants in the Dust: The African Elephant Crisis: A Rapid Response Assessment,” United Nations Environment Program, (2013), 48.

The smuggled wildlife resources find their way to Asia, where people grind rhinoceros horns into a powder used as a traditional medicine believed to cure cancer and other ailments.<sup>64</sup> In Asia, the Harkat-ul-Jihad-al-Islami, allegedly linked to Al Qaeda, and the Jama’atul Mujahideen Bangladesh, who aligned themselves with Bin Laden in 1998, both operate in and around the Kaziranga National Park in eastern India where they poach snow leopards, elephants, and rhinoceros. The poached items are then shipped to Nepal, Burma, and Thailand, with a final destination of China.<sup>65</sup>

Unfortunately, the status quo of enforcement techniques used in the late twentieth century is no longer sufficient to address the sophisticated and evolving environment of the twenty-first century. The complex strategies and techniques used by criminal organizations to harvest and

<sup>64</sup> Gettleman, “Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits.”

<sup>65</sup> Levy and Scott-Clark, “Poaching for Bin Laden.”

transport valuable wildlife resources are more difficult to detect than ever before. Criminal organizations use specially modified shipping containers and mix elephant tusks with timber planks to conceal their illicit shipments.<sup>66</sup> Other methods of concealment involve mismarked or falsely declared documents, mixing ivory with shipments with chili peppers to confuse sniffer dogs, and unloading illicit shipments into Chinese fishing vessels to avoid port inspections.<sup>67</sup>

TCOs and VEOs are improving their hunting, harvesting, smuggling, and selling techniques. Poachers demonstrated improved hunting techniques when they infiltrated Garamba National Park via helicopter to hunt elephants.<sup>68</sup> In January 2012, roughly one hundred poachers traveled from Chad into Bouba Njdida National Park in northern Cameroon and harvested tusks approximately 200-300 elephants in a single raid.<sup>69</sup>

The primary markets for illegal ivory are China, Vietnam, and Japan.<sup>70</sup> There is no singular international supervisory organization with regulatory authority, jurisdiction, or practical capability to address wildlife resource harvesting, transit, and market trade around the world. Smuggling techniques involve concealing ivory along with plastic waste, cement, dried anchovies, seashells, copper ore, cashew nuts, cowhide, and timber.<sup>71</sup> Illegal vendors sell ivory products in China with falsified certifications.<sup>72</sup>

An incident from 2006 highlights the complexity of tracking the movement of illicit ivory. In that year, Taiwanese authorities confiscated more than five tons of elephant ivory concealed in a shipping container. The shipment originated in Tanzania and was bound for the

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<sup>66</sup> Begley, "Extinction Trade."

<sup>67</sup> Gettleman, "Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits."

<sup>68</sup> Edge, "Elephant Charities."

<sup>69</sup> Christian Nellermann et al., *Elephants in the Dust: The African Elephant Crisis: A Rapid Response Assessment* (Norway: Birkeland Trykkeri AS, 2013): 35.

<sup>70</sup> *Ibid.*, 13.

<sup>71</sup> Environmental Investigation Agency, *Vanishing Point*, 18, 20, 27, 32.

<sup>72</sup> *Ibid.*, 29.

Philippines. After departing Tanzania, the ivory traveled through Malaysia into Singapore, where the shipment remained for some time. The shipment then departed for the Philippines, re-routed to Taiwan, returned to the Philippines, and then finally arrived in Taiwan where officials identified the contraband and confiscated the cargo. Shortly after the seizure, officials “lost” the five tons of ivory while it was stored at a warehouse contracted by Philippine customs authorities.<sup>73</sup> The whereabouts of the shipment have never been determined.

Government inability to prevent or deter wildlife resource exploitation has further destabilized East Africa due to the acts of TCOs, VEOs, and non-state armed groups. TCO operations have international ripple effects, such as the integration of terrorist organizations utilizing the same money laundering channels and smuggling routes as organized criminal networks.<sup>74</sup> The exploitation of wildlife resources by organized criminal networks with direct links to terrorist groups has led some experts to predict terrorist groups may enter the illegal wildlife trade.<sup>75</sup> The longer TCOs continue to improve their efforts to exploit wildlife resources, the more difficult it will be to halt their current practices and prevent wildlife exploitation efforts elsewhere.

Corruption and bribery undermines countries’ ability to protect wildlife from TCOs. An additional problem stems from a lack organized international enforcement efforts. The illegal trade of wildlife has drawn international attention from the United Nations and governments around the world. Unfortunately, no organization exists with global jurisdiction to coordinate efforts to curb illegal wildlife trade from the point of origin, through the international smuggling process, to the point of sale.

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<sup>73</sup> Samuel Wasser et al., “Using DNA to Track the Origin of the Largest Ivory Seizure Since the 1989 Trade Ban,” *Proceedings of the National Academy of Science of the United States of America* 104, no. 10 (March 2007): 4230.

<sup>74</sup> Wyler and Sheikh, “International Illegal Trade in Wildlife,” 22.

<sup>75</sup> *Ibid.*, 23.

## Section II: Case Study of Yellowstone National Park

This section will discuss the creation and evolution of national parks within the United States. There were no historical precedents to guide the process of creating and administering the national park system. At times, the process has involved military forces to secure the land, protect resources, and improve the infrastructure within the parks. In many cases, park administrators came into conflict with indigenous peoples and local people who resented losing access to natural and animal resources. Cooperation and transition between government agencies was crucial to the creation and survival of the national parks, along with congressional legislation that protected the land and animal inhabitants. Safeguarding wildlife resources should be a priority for contemporary nations losing their wildlife resources through illicit means. The use of military force to secure national parks may seem archaic or foreign to the modern American, but the transition of park protection from the military to a civilian agency, the US National Parks Service (USNPS), was an evolutionary process that took the United States over forty years to complete.

In the early nineteenth century, the young United States sought to establish a cultural identity of its own, something separate from other European nations. The United States did not have a deep history of art, literature, or architectural works. The United States lacked cultural identity and appeal by European standards.<sup>76</sup> Famous pieces of art and cathedrals that attracted visitors from all across Europe simply did not exist in the United States in the early nineteenth century. In the absence of historic or cultural monuments, the United States attempted to monumentalize scenic natural environments as a means to establish a cultural identity for the nation.<sup>77</sup>

In 1859, the federal government sent an Army expedition to the Yellowstone National Park area in 1859. Captain W. F. Reynolds of the Corps of Topographical Engineers headed the

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<sup>76</sup> Alfred Runte, *National Parks: The American Experience*, 3rd ed. (Lincoln, NE: University of Nebraska Press, 1997), 7.

<sup>77</sup> *Ibid.*, 4, 8.

expedition to investigate the possibilities of agriculture and settlement in the vicinity of the headwaters of the Missouri River, including the areas surrounding the headwaters of the Yellowstone River.<sup>78</sup> In 1870 and 1871, subsequent expeditions to the Yellowstone area occurred. Members of the Washburn Expedition of 1870 were concerned homesteaders would make claims on the land which contained geysers, hot springs, towering waterfalls, and other geothermal wonders. Bowing to public pressure, President Ulysses S. Grant signed legislation creating Yellowstone National Park on March 1, 1872.<sup>79</sup> The first superintendent of Yellowstone was Nathaniel P. Langford, a member of the 1870 expedition. The Secretary of the Interior entrusted Langford with preventing trespassing; ensuring the preservation of the park from harmful exploitation; retaining the natural condition of all timber, mineral deposits, and natural curiosities and wonders (geysers) within the park; and guarding fish and game against wanton destruction for the purposes of profit. Langford's first priority was to improve roads leading to and within the park because once the infrastructure was in place, it would enhance his ability to preserve the park's natural environment.<sup>80</sup>

As early as October 1871, Congress sought to protect the integrity of the Yellowstone area, attempting to prevent it from falling into the hands of private investors.<sup>81</sup> Specifically, the legislation sought to prevent squatters and claimants from gaining control of the area's most scenic features.<sup>82</sup> In December 1871, Congress introduced the Yellowstone bill and enacted it into law in March 1872 under the jurisdiction of the Department of the Interior.<sup>83</sup> By 1875, the Army

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<sup>78</sup> H. Duane Hampton, *How the U.S. Cavalry Saved Our National Parks* (Bloomington, IN: Indiana University Press, 1971), 23.

<sup>79</sup> *Ibid.*, 27.

<sup>80</sup> *Ibid.*, 32.

<sup>81</sup> Richard Sellars, *Preserving Nature in the National Parks* (New Haven, CT: Yale University Press, 1997), 9.

<sup>82</sup> *Ibid.*

<sup>83</sup> Sellars, *Preserving Nature in the National Parks*, 9.

and the Corps of Engineers began overseeing Yellowstone and by 1890 the Corps of Engineers maintained oversight of several other parks, such as Yosemite, Sequoia, and General Grant national parks until the start of World War I.<sup>84</sup>

In 1876, Yellowstone National Park drew visits from over 500 tourists.<sup>85</sup> By 1878, Congress appropriated \$10,000, equivalent to \$237,414 in 2018, for the construction of wagon roads and bridges to enable tourists to travel the park and observe the majestic scenery more efficiently.<sup>86</sup> By 1881, workers had built over 153 miles of roads and over 200 miles of horse trails in the park.<sup>87</sup> In 1882, Secretary of the Interior Henry M. Teller deputized Patrick Conger, a political appointee, to serve as the second superintendent of Yellowstone. That same year, Secretary Teller reached a tentative agreement with the Yellowstone National Park Improvement Company for a ten-year monopoly contract to build hotels, operate a stagecoach, and erect telegraph lines across 4,400 acres of the park at a rent of \$2 per acre per year.<sup>88</sup> The perceived corruption of this business transaction prompted General Phil Sheridan and others to balk at the contract and propose the appointment of an Army engineer to re-assume complete control of the improvements within the park. However, the Army would not assume responsibility for administering Yellowstone National Park for several more years.

By 1883, Congress increased appropriations for park improvements from \$15,000 to \$40,000 (adjusted for inflation in 2018, the increase was roughly \$350,000 to over \$930,000). Additionally, in 1883, Congress passed legislation preventing Secretary Teller from leasing 4,400 acres to the Yellowstone National Park Improvement Company. It also reduced the size of the

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<sup>84</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 146-147.

<sup>85</sup> Karl Jacoby, *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Los Angeles, CA: University of California Press, 2001), 88.

<sup>86</sup> Yellowstone National Park Act, U.S. Statutes at Large 229, 45th Cong., 2nd sess., IV Part 3 *Congressional Record* 229, (June 20, 1878): 4557.

<sup>87</sup> Yellowstone National Park Act, 47th Cong., 1st sess., 1881, serial 2018, 807-814.

<sup>88</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 54.

lease from 4,400 acres to 10 total acres. Reports of poor road conditions within the park triggered a special investigation by the Secretary of the Interior. The investigation determined that professional hunters were poaching throughout the park to provide fresh meat for the workers employed by the improvement company. Second, the report alleged that the park assistants were permitting vandalism, selling specimens, and poaching as well.<sup>89</sup> Superintendent Conger complained that he was ill equipped with either the work force or the legal authority to adequately protect the park and enforce the laws. In response, Congress put the entirety of the park under the legal jurisdiction of Gallatin County, Montana, and conferred the powers and authorities of US Marshals on Superintendent Conger and his assistants.<sup>90</sup> Unfortunately, the poor caliber of Conger's assistants led to his replacement in August 1884 by Robert Carpenter. Carpenter was considered both dishonest and corrupt and, to the detriment of Yellowstone National Park, he used his position as Superintendent of Yellowstone as a vehicle to enrich himself.<sup>91</sup>

In June 1885, under the President Grover Cleveland administration, a new round of political appointments occurred. D.W. Wear became the new Superintendent of Yellowstone National Park. Wear's name and background as a Colonel in a Federal Regiment during the Civil War carried the necessary authority to the superintendent position and, within two months of assuming his position, he orchestrated the first successful prosecution for hunting inside of the park.<sup>92</sup> Despite Wear's early successes as superintendent, his predecessors' dismal records of corruption, avarice, and ineptness influenced lawmakers and Secretary of the Interior Lucius Lamar to withdraw the administrative responsibility of Yellowstone National Park from civilian

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<sup>89</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 62-63.

<sup>90</sup> Yellowstone National Park, 48th Cong., 1st sess., *Congressional Record* (December 4, 1883): Senate Bill 221.

<sup>91</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 69.

<sup>92</sup> *Ibid.*, 70.

appointees and entrust it to the Secretary of War, specifically Captain Moses Harris, Troop M, 1st United States Cavalry, on August 20, 1886.<sup>93</sup>

The assignment of Army forces to administer the park sought to eliminate corrupt and incompetent oversight of the park. Despite the lack of a legal punishment mechanism for law violations within the park, national leaders anticipated that the respect and fear of military forces within the park would serve as both a deterrent and provide an effective enforcement component. The cavalry troops patrolled the park year-round in search of poachers and constructed small patrol cabins throughout the park for overnight quarters during the winter months.<sup>94</sup> Anti-poaching efforts, coupled with park infrastructure improvements to facilitate and encourage tourism, proved effective. By 1890, park visitors totaled 3,800 and by 1895 the number climbed to 5,348.<sup>95</sup> The increasing number of visitors and improved park infrastructure also increased opportunities for poachers. Unfortunately, Captain Anderson, the Yellowstone National Park Superintendent from 1891-1897, lacked the legal authority to prosecute violators of the law and the requisite number of forces to prevent poaching during the first years of his command. However, by the end of Anderson's command in Yellowstone National Park, Congress increased the authority granted to the military to address the curbing of illegal poaching.

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<sup>93</sup> US Department of War, *General Sheridan to Secretary of War, August 9, 1886*, National Archives file 3997.

<sup>94</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 100.

<sup>95</sup> *Ibid.*, 106.

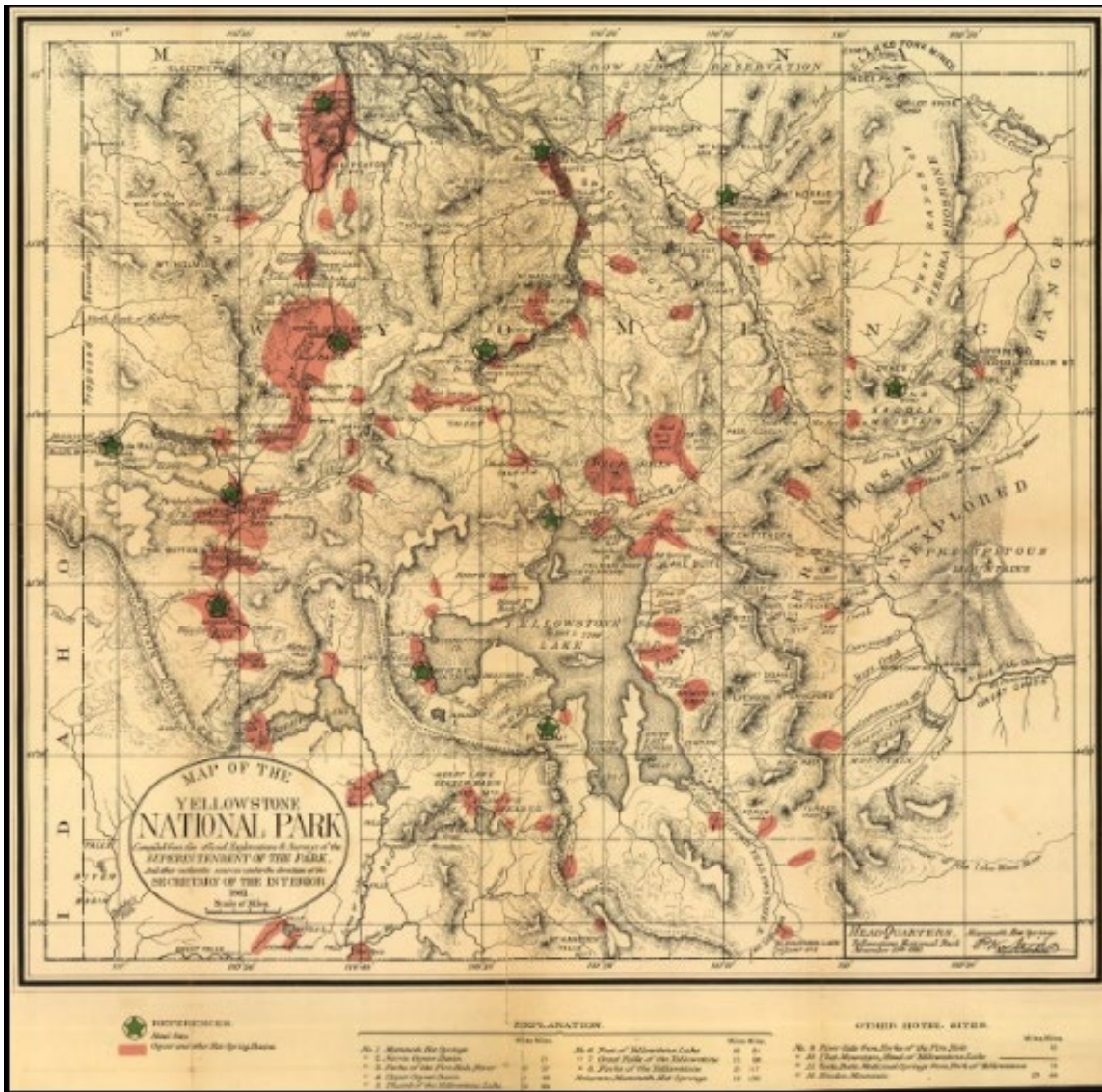


Figure 3. “Map of the Yellowstone National Park 1881,” Big Map Blog, last modified November 22, 2012, accessed March 25, 2018, <http://www.bigmapblog.com/2012/map-of-the-yellowstone-national-park-1881/>.

Due to their limited authority, all that cavalry troops could do to punish poachers was to strip the violators of all their possessions, which typically included a horse, gun, and hides. The cavalry troopers would then march the violators out on foot to a location on the opposite side of the park from where the violators were detained.<sup>96</sup> As figure 3 indicates, a march to the opposite side of the park could be nearly 100 miles, through mountainous terrain and snow. However, in

<sup>96</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 108, 111.

1894, two events occurred that aided the Army in preserving wildlife resources at Yellowstone National Park. First, Congress passed an act to protect birds and animals in the park. Second, Congress finally authorized the appointment of a park magistrate and granted him the legal authority to punish and fine violators as part of the 1894 Lacey Act, some twenty-two years after the park was established.<sup>97</sup>

The 1894 Lacey Act was a direct result of a March 1894 incident where two soldiers apprehended a poacher, Edgar Howell, who had six bison heads in his possession. Coincidentally, a journalist and photographer from *Forest and Stream* magazine were visiting the park when the seizure of Howell's trophies occurred. Emmerson Hough, the journalist, conducted an interview with the unrepentant Howell, while photographer Frank Haynes photographed the poached bison. Howell's interview informed the magazine's readers, the US public, and lawmakers that poachers were willing to risk forfeiture of their gear, valued around \$30, while attempting to secure buffalo heads valued in excess of \$300.<sup>98</sup> The Lacey Act resulted in the appointment of John Meldrum as a magistrate and the first Commissioner of the Park in June 1894. It also granted him the authority to hear and act upon all complaints and violations of the Yellowstone National Park Act and to assess fines of up to \$1,000 (approximately \$27,000 adjusted for inflation in 2018).<sup>99</sup>

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<sup>97</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 126.

<sup>98</sup> Rick Lamplugh, "The Poaching and Saving of Yellowstone's Wildlife," *Yellowstone Reports*, last modified August 9, 2015, accessed February 9, 2018, <https://www.yellowstonereports.com/report.php?date=2017&cid=4034>.

<sup>99</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 126.



THE BUTCHER'S WORK.

Figure 4. Emmerson Hough and Frank Haynes, “Protection of the Yellowstone Park,” *Forest and Stream*, May 5, 1894, 377.

The cavalry unit stationed at Yellowstone proved to be a learning organization. The captains who served as superintendents of Yellowstone National Park took multiple approaches to improve the security of the park. Their presence alone deterred poaching, so the troops took measures to increase their presence by actively patrolling throughout the year. The troops stationed at Yellowstone National Park also cooperated with law enforcement officers in the area around the park to monitor individuals known for poaching.<sup>100</sup> The most productive means of improving security within the park was the use of media, and they publicized the inadequate legal structures and punishments available to deter poaching. Policymakers employed lessons learned from Yellowstone National Park to combat poaching practices elsewhere to protect additional species within the rest of the United States in the early part of the twentieth century.

In 1895, bison heads could be sold for \$500 (\$13,000 in 2018 money) and mounted bison heads were worth \$1,500 (\$39,000 in 2018 money), yet there was still no legal mechanism available for prosecuting violators within the park. In 1897, Yellowstone National Park rangers implemented a ban on hunting dogs and firearms within the park.<sup>101</sup> Records from 1902 indicate

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<sup>100</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 110.

<sup>101</sup> Jacoby, *Crimes Against Nature*, 109.

that corrupt Yellowstone National Park rangers colluded with poachers for profit.<sup>102</sup> Incidents detailing corruption include soldiers trafficking elk teeth, which were in high demand for members of the Benevolent and Protective Order of Elks. Other incidents involve poachers trading pistols for moose skins and soldiers driving buffalo out of the park to facilitate “legal” poaching.<sup>103</sup>

On June 8, 1906, President Theodore Roosevelt signed the Antiquities Act into law. The Antiquities Act obligated federal agencies that manage public lands to preserve for present and future generations the historic, scientific, commemorative, and cultural values of the archaeological and historical sites and structures.<sup>104</sup> The act served as the basis for the federal government’s efforts to protect national parks from looting and vandalism, as well as to bring public attention to efforts to preserve historic places, structures, cultural landscapes, and other cultural resources. The USNPS currently states the impact of the Antiquities Act is unmatched in shaping public policy to protect cultural and natural resources.<sup>105</sup>

When the National Parks were at the most vulnerable point in their history, the US Army stepped in to provide not just the physical security of Yellowstone National Park, but also the visionary leadership that shaped the future of the entire national park system. Despite the successful efforts of the US Army to protect Yellowstone National Park, the Army could not protect the park forever. On 25 August 1916, Congress approved the creation of the USNPS, which relieved the US Army from protecting and maintaining the parks prior to American entry in World War I.<sup>106</sup>

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<sup>102</sup> Jacoby, *Crimes Against Nature*, 109.

<sup>103</sup> Ibid.

<sup>104</sup> “The Antiquities Act,” National Parks Service, last modified February 14, 2018, accessed February 24, 2018, <https://www.nps.gov/subjects/legal/american-antiquities-act-of-1906.htm>.

<sup>105</sup> Ibid.

<sup>106</sup> Runte, *National Parks*, 103.

Leading up to President Woodrow Wilson's signing of the Organic Act in 1916, a collection of agencies administered the United States' inchoate park system. The Organic Act required National Parks to remain in their natural conditions and ensured future protection of the park system.<sup>107</sup> By 1916, the Army was set to disengage itself from the task of providing protection to the national parks in order to prepare for World War I, yet the necessary task of park protection remained. The USNPS was created to fulfill all of the duties required to administer the national parks, which ultimately reduced the need for interagency cooperation in park protection.

The administration of the national parks in the nineteenth century may yield valuable insights for African nations struggling to limit poaching. Japan used the USNPS as a template for the creation of the Japanese national park system, and the USNPS influenced the German Museum of Country and Folklore as well.<sup>108</sup> The rudimentary beginnings of the USNPS grew to what was a \$35 billion industry in 2016.<sup>109</sup>

After briefly reviewing the history of anti-poaching efforts in Yellowstone, several conclusions become evident: 1) National Park areas must be designated and protected by competent authorities; 2) Government oversight is required to prevent corruption during the developmental phases; 3) The entity charged to protect the park must have legal authority to carry out their duties, punish violators, and gain legitimacy in the eyes of local communities; 4) The penalty for violation of the law must be cost prohibitive; 5) An acceptable balance between conservation and cultivation must be achieved in order to attain a sustainable level of wildlife resources and demonstrate economic and social benefit. However, the Yellowstone National Park case study only addresses the domestic component of Putnam's two-level game theory. The

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<sup>107</sup> Sellars, *Preserving Nature in the National Parks*, 30, 22.

<sup>108</sup> Hampton, *How the U.S. Cavalry Saved Our National Parks*, 172.

<sup>109</sup> Kurt Repanshek, "Rise in National Park Visitation Last Year Produced \$35 Billion Economic Boost," *National Parks Traveler*, April 20, 2017, accessed February 5, 2018, <https://www.nationalparkstraveler.org/2017/04/rise-national-park-visitation-last-year-produced-35-billion-economic-boost>.

remainder of the monograph will evaluate the international component of the recommended two-prong approach to combatting contemporary illicit wildlife resource harvesting.

### Section III: The Creation of the Kimberley Process Certification Scheme

Protecting rare wildlife resources, such as ivory, rare hides, and furs, has proven extremely difficult. Measures taken thus far are clearly inadequate as elephants and other endangered species populations continue to plummet. This section draws a comparison between the current wildlife resource market and the 1990s market for “conflict diamonds” or “blood diamonds.” Conflict Diamonds originated from areas controlled by forces or factions opposed to legitimate and internationally recognized governments. Diamond revenues fund military action in opposition to those governments, or in contravention of the decision of the United Nations (UN) Security Council.<sup>110</sup> The international community should create a process similar to the KPCS for ivory, rare hides and furs, and other lucrative wildlife resources, which constitutes this monograph’s second prong for reducing the marketing and selling of illicit wildlife resources.

Civil wars in Angola, Sierra Leone, Rwanda, Liberia, the DRC, and Ivory Coast throughout the 1990s all facilitated the illegal mining and export of conflict diamonds. TCOs established their facilitation networks through partnerships with other criminals, corrupt politicians, journalists, and businesspersons.<sup>111</sup> TCO revenues from illicit activities paid the salaries of full-time employees, funded their training, purchased their equipment, and financed supplies. TCOs use state-of-the-art, military-grade equipment, such as thermal imaging devices, night vision goggles, global positioning system satellite receivers, automatic and semi-automatic weapons, rocket propelled grenades, and even helicopters.<sup>112</sup>

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<sup>110</sup> Anna Campino, “Sanctions and War: Conflict Diamonds,” *United Nations*, March 21, 2001, accessed October 3, 2017, <https://web.archive.org/web/20121023004513/http://www.un.org/peace/africa/Diamond.html>.

<sup>111</sup> George P. Lachicotte III, “Beyond the Border: Mexico’s Internal Conflict is the United States’ Problem” (monograph, *School of Advanced Military Studies*, 2013), 11.

<sup>112</sup> Gettleman, “Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits.”

During the 1990s and early 2000s, the situation regarding “blood diamonds” attracted the international community’s attention following the November 1999 report from Martin Rapaport. Rapaport is an iconic figure in the diamond industry, and he served as chair of the Rapaport Group and founder of the Rapaport Diamond Report. He posted a lengthy online commentary entitled “Blood Money” on [www.diamonds.net](http://www.diamonds.net) drawing comparisons between World War II and conflicts in the 1990s where genocide occurred in both instances. Rapaport’s article aimed to hold powerbrokers within the diamond industry and politicians morally accountable for the second and third order effects of how militant groups used profits from the diamond trade to fund armed conflict. His article discussed the ties between diamonds and violent conflicts in Africa and compared the Khmer Rouge’s trade of illicit timber in Cambodia to what was taking place in Africa.<sup>113</sup> Following Rapaport’s article, consumer demand for diamonds remained high, but states and humanitarian organizations urged the diamond industry to address the problem. Similarly, international authorities and governments must impose more control over the contemporary facets of the wildlife resource industry.

In January 2000, just two months after Rapaport’s article, Partnership Africa Canada released a report highlighting the influence of illicit diamond mining and trading in the ongoing conflict in Sierra Leone involving the Revolutionary United Front.<sup>114</sup> The report, entitled *Sierra Leone: Diamonds & Human Security*, provided recommendations to reduce the trade of conflict diamonds.<sup>115</sup> The report about Sierra Leone highlighted many points of concern within the diamond industry. One point of concern was the number of outside entities involved in the illicit diamond trade originating inside of Sierra Leone, including Liberia, the Ivory Coast, Belgium,

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<sup>113</sup> Martin Rapaport, “Blood Money,” *Rapaport*, November 5, 1999, accessed February 10, 2018, <http://www.diamonds.net/News/NewsItem.aspx?ArticleID=3347>.

<sup>114</sup> Ian Smillie, Lansana Gberie, and Ralph Hazleton, “The Heart of the Matter: Sierra Leone, Diamonds and Human Security,” *Partnership Africa Canada* (January 2000): 8, accessed October 3, 2017, <https://www.africaportal.org/publications/the-heart-of-the-matter-sierra-leone-diamonds-and-human-security/>.

<sup>115</sup> Smillie, Gberie, and Hazleton, “The Heart of the Matter,” 8.

Lebanon, Israel, Russia, and the United States.<sup>116</sup> A second point of concern was the lack of oversight provided by the Hoge Raad voor Diamant (HRD), or Diamond High Council, located in Antwerp, Belgium. The HRD recorded the origin of a diamond from where it was last exported. In the mid-1980s the diamond mining industry closed in the Ivory Coast. However, the HRD knowingly recorded over 1.5 million karats of diamonds exported from the Ivory Coast to Belgium from 1995-1997. As a governing body within the diamond industry, such large numbers of export diamonds from a country that no longer mined diamonds should have prompted an investigation. Furthermore, the HRD recorded over 31 million karats of diamonds exported from Liberia between 1994 and 1998 even though the diamond mining capacity in Liberia is only 100-150 thousand karats per year.<sup>117</sup> The discrepancy between the diamond mining capacity and diamond exportation quantities in Liberia should have prompted an investigation from the HRD.

Robert Fowler, the former Canadian Ambassador to the UN, served as the chair on a panel of experts to investigate violations of the Security Council's sanctions against National Union for the Total Independence of Angola (UNITA), a political party in Angola. The report, known as the Fowler Report, indicated the rebel group UNITA was netting over \$3 million a year from the illegal trade of diamonds.<sup>118</sup> The Fowler Report predicted that sanctions and security forces would remain ineffective against both rebels and government leaders during the era of conflict diamonds unless the UN adopted a strategy of "smart sanctions," targeting high-value commodities such as oil, diamonds, and timber, which financed the conflicts.<sup>119</sup> Both the broader UN sanctions and the narrower "smart sanctions" failed to stem the conflicts. Following the Rapaport article, the Partnership Africa Canada report on Sierra Leone, and the UN report on

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<sup>116</sup> Smillie, Gberie, and Hazleton, "The Heart of the Matter," 8.

<sup>117</sup> Ibid.

<sup>118</sup> Robert Fowler, "Report of the Panel of Experts on Violations of Security Council Sanctions Against UNITA." *United Nations Security Council*, 2000.

<sup>119</sup> Virginia Haufler, "The Kimberly Process Certification Scheme: An Innovation in Global Governance and Conflict Prevention," *Journal of Business Ethics* 89, sup. 4 (2009) 407.

UNITA, the UN realized military intervention and sanctions were failing to halt the violence. The UN solicited the diamond industry’s private sector assistance in improving labor standards, human rights, environmental protection, and establishing global social and environmental standards.<sup>120</sup>

The corporate response to the diamond crisis was a collaborative effort that eventually led to the development of the KPCS. In May 2000, government leaders and the diamond industry officials met in Kimberley, South Africa, to discuss how to combat the trade of diamonds originating in conflict zones. The meeting resulted in the creation of the KPCS, which established an internationally recognized certification system for rough diamonds and outlined import and export standards. The implementation required support from the diamond industry, but also from states that oversaw export and import controls through their customs systems.<sup>121</sup> The KPCS packaged rough, uncut, and minimally cut diamonds together in a parcel with a forgery-resistant certificate that documents the origins of the stones. As a result, it verifies that the stones did not originate from a conflict zone.



Figure 5. “Kimberley Certificate Example,” Young Adult Division Shalom Club, accessed February 10, 2018, <http://yadclub.org/kimberley-certificate-sample>.

<sup>120</sup> Virginia Haufler, “The Kimberly Process Certification Scheme,” 407.

<sup>121</sup> *Ibid.*, 409.

In 2000, the World Federation of Diamond Bourses and the International Diamond Manufacturers Association met and formed the World Diamond Council (WDC). The WDC consists of businesses and organizations around the globe engaged in every sector of the diamond trade, from producer to retail. The mission of the WDC is to prevent the trade in conflict diamonds.<sup>122</sup> By 2001, the diamond industry had implemented a voluntary system to certify diamonds and establish a means to halt the purchase and distribution of conflict diamonds.<sup>123</sup> Together, they developed a tracking system for the export and import of rough diamonds to prevent their illicit use, assuring buyers that the rough diamonds they purchased did not originate in conflict zones. Additionally, the WDC encouraged banks, insurers, and shippers to avoid doing business with distributors of conflict diamonds.<sup>124</sup> In November 2002, fifty-two nations ratified the KPCS, which became operational in August 2003.<sup>125</sup> The KPCS achieved success due to two factors. First, the reputation of diamonds as a symbol of “love” was in jeopardy, which could have long-term repercussions on the diamond market. Second, the highly concentrated diamond production industry proved relatively easy to regulate.

Following the implementation of the KPCS in Sierra Leone, the value of total official exports rose from \$26 million in 2001 to \$142 million in 2005.<sup>126</sup> The DRC also had its best year of diamond trade following the incorporation of the KPCS. All participant countries ensured that imported and exported diamonds were in sealed containers, were properly certified, and did not

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<sup>122</sup> “About WDC,” World Diamond Council, last modified December 14, 2017, accessed February 10, 2018, <https://www.worlddiamondcouncil.org/about-wdc/who-we-are>.

<sup>123</sup> Haufler, “The Kimberly Process Certification Scheme,” 409.

<sup>124</sup> Rapaport Trade wire. “World Diamond Council calls for International Government Action on Conflict Diamonds”, *Rapaport Trade Wire* (2000).

<sup>125</sup> “Kimberley Process,” Global Policy Forum, last modified January 2018, accessed February 10, 2018, <https://www.globalpolicy.org/the-dark-side-of-natural-resources-st/diamonds-in-conflict/kimberley-process.html>.

<sup>126</sup> Global Witness and Pamela Wexler. “An Independent Commissioned Review Evaluating the Effectiveness of the Kimberley Process.” *Global Witness* (2006) 5.

originate from non-KPCS participant countries. Participant countries were required to implement national legislation to criminalize trade in conflict diamonds. Member countries reported diamond production levels, trade data, and any KPCS implementation problems they encountered. Additionally, KPCS members submitted themselves to regular third-party audits. Countries that violated the terms of the KPCS were subject to membership revocation.<sup>127</sup>

The KPCS achieved several objectives that are relevant to those who seek to deter the contemporary trade of illicit wildlife resources. The KPCS leveraged public attention to impose control mechanisms over a global market. The KPCS also forged protocols through treaties and imposed international sanctions. Combined government, supra-government, and private industry cooperated in developing solutions. Compliance with protocols netted significant financial benefits to participating countries where the diamonds originated.

#### Section IV: Conclusion

In 1970, the UN ratified twenty-six articles to improve and provide for the protection of “cultural property.” The methods outlined by the UN are strikingly similar to the methods employed by the KPCS, which safeguarded the integrity of diamond trade and prevent conflict diamonds from entering commercial circulation. For comparison’s sake, there are over fifty member nations in the KPCS and there are forty-nine countries with indigenous elephants (thirty-six African nations and thirteen Asian nations). There are just twelve countries with indigenous rhinoceros populations (eight African nations and four Asian nations). Diamonds are highly valuable, small in weight and size, easily marketed, and indestructible in contrast to ivory, which is large, heavy, fragile, and difficult to market. As a result, the opportunity to create an international framework like the KPCS to regulate the trade of wildlife resources, as outlined in Article 9 of the 1970 UN convention, is a real possibility.

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<sup>127</sup> Haufler, “The Kimberly Process Certification Scheme,” 410.

Countries suffering from illegal wildlife exploitation should form an organization similar to the Organization of Petroleum Exporting Countries and establish a Fauna Protection Certification Scheme (FPCS) like the KPCS. FPCS members will emphasize Article 2 of the 1970 UN convention to highlight how the illicit import, export, and transfer of wildlife resources impoverishes member nations of the FPCS. FPCS members should then register the Deoxyribonucleic Acid (DNA) of all indigenous fauna they intend to protect for certification purposes as outlined in Article 6. As per Article 7, all UN members would be required to inform FPCS members of potential FPCS items.<sup>128</sup> FPCS member nations should then establish a standard global measurement of value for items they intend to certify. Ivory from an elephant's tusk is one example. Once the FPCS establishes the value of ivory, all existing ivory articles will need certification from the FPCS. At this point, possessors of ivory articles must pay for the certificate or sell their item to the FPCS. This process will simultaneously reduce TCO networks' ability to profit from wildlife exploitation while at the same time enabling legitimate governments to profit from legally harvested indigenous fauna.

Because researchers anticipate that illegal wildlife trade will continue, nations confronted with the specter of illicit wildlife resource exploitation should take immediate measures to replicate something like the KPCS within the private sector of the wildlife resource market. Certification is the first step. The second step is for experts to establish a market value for existing wildlife resource items and provide a grace period to allow owners to purchase a certification document, at a reduced rate, and enter all existing items into a database. Once the grace period concludes, all non-certified wildlife items are subject to confiscation or sale at market value. As part of the certification process, authorities will be able to trace the region of origin for wildlife trade commodities, such as ivory, rhino horns, tiger bones, teeth and claws of

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<sup>128</sup> "Cultural Property Law," United Nations Educational, Scientific and Cultural Organization, accessed November 11, 2017, <http://www.unesco.org/new/en/culture/themes/illicit-trafficking-of-cultural-property/1970-convention/text-of-the-convention>.

large cats, pangolin scales, and so forth through genetic DNA sampling. The DNA sampling will enable authorities to direct revenues from the certification process to the nation where the wildlife originated. Authorities will be able to adjust the market value of wildlife artifacts in conjunction with the population of each species.

The two-pronged approach to securing wildlife resources from illegal harvesting is vital. Physical security of ecological species and market control of wildlife resources must both be components of the international effort to deter and eliminate TCOs. TCOs are a threat to wildlife resources around the world. If any nation is incapable of securing their own natural resources due to a lack of financial resources, corruption, ineptitude, or otherwise, US military planners and policymakers need to examine a means to assist and intervene. Simultaneously, a multinational political or economic entity must work to assume control of wildlife trade. Governments should secure wildlife resources in the same manner as any other natural resource or mineral resources, such as oil, gold, or gemstones.

TCOs are a global problem that continue to undermine the rule of law and destabilize partner nations. Wildlife resource exploitation is just one means in which TCOs generate revenue to export their violence and corruption. No two problems are the same, but there have been successful efforts to secure wildlife resources in the past, and hopefully this monograph will goad military planners and policymakers into considering new approaches in their efforts to secure wildlife resources and combat transnational crime, terrorism, and trafficking.

## Bibliography

- Adams, Kevin R. *Office of Law Enforcement Strategic Plan 2006-2010*. US Fish & Wildlife. 2005.
- Akama, John S. and Damiannah M. Kieti. "Measuring Tourist Satisfaction with Kenya's Wildlife Safari: A Case Study of Tsavo West National Park." *Tourism Management* 24 (2003): 73-81.
- Andreas, Peter. "Criminalizing Consequences of Sanctions: Embargo Busting and Its Legacy." *International Studies Quarterly* 49, no. 2 (June 2005): 335-360.
- ASEAN Cooperation on Environment. "ASEAN-WEN." Association of Southeast Asian Nations – Wildlife Enforcement Network. Last modified December 8, 2017. Accessed February 5, 2018, <http://environment.asean.org/>.
- Begley, Sharon. "Extinction Trade: Endangered Animals are the New Blood Diamonds as Militias and Warlords use Poaching to Fund Death." *Newsweek*, March 1, 2008. Accessed September 12, 2017. <http://www.sharonbegley.com/big-business-wildlife-trafficking>.
- Benjaminsen, Tor A., et al. "Wildlife Management in Tanzania: State Control, Rent Seeking and Community Resistance." *Development and Change* 44, no. 5 (2013): 1087-1109.
- Beyers, Rene L., et al. "Resource Wars and Conflict Ivory: The Impact of Civil Conflict in the Democratic Republic of Congo – The Case of the Okapi Reserve." *Plos One*, November 9, 2011. Accessed December 23, 2017. <https://pdfs.semanticscholar.org/b406/858277478d49952bd21282e7d0e3a8e2639b.pdf>.
- Brack, Duncan and Gavin Hayman. "International Environmental Crime: The Nature and Control of Environmental Black Markets." *The Royal Institute of International Affairs Sustainable Development Program* (May 2002): 5.
- Chairman of the Joint Chiefs of Staff. *National Military Strategy of the United States of America*. Washington, DC: US Department of Defense, 2015.
- Chokshi, Niraj. "Trump Administration to Lift Ban on 'Trophy' Elephant Imports." *New York Times*. November 16, 2017. Accessed January 4, 2018. <https://www.nytimes.com/2017/11/16/world/africa/trump-elephant-trophy.html>.
- CITES. "What is CITES" Convention on International Trade in Endangered Species of Wild Fauna and Flora. Last modified February 4, 2018. Accessed February 5, 2018. <https://www.cites.org>.
- Cochrane, Emily. "For Now, Trump to Keep Ban on Importing Elephant Trophies." *New York Times*. November 17, 2017. Accessed January 4, 2018. <https://www.nytimes.com/2017/11/17/us/politics/trump-elephant-trophy-ban.html>.

- Cook, Dee, Martin Roberts, and Jason Lowther. "The International Wildlife Trade and Organised Crime." *World Wildlife Fund* (June 2002). Accessed December 27, 2017. [https://www.academia.edu/8178488/The\\_International\\_Wildlife\\_Trade\\_and\\_Organised\\_Crime\\_a\\_review\\_of\\_the\\_evidence\\_and\\_the\\_role\\_of\\_the\\_UK](https://www.academia.edu/8178488/The_International_Wildlife_Trade_and_Organised_Crime_a_review_of_the_evidence_and_the_role_of_the_UK).
- Douglas, Leo R., and Kelvin Alie. "High-Value Natural Resources: Linking Wildlife Conservation to International Conflict, Insecurity, and Development Concerns." *Biological Conservation* 171 (2014) 270-277.
- Dwyer, Colin. "China's Ban On Its Domestic Ivory Trade Takes Effect." *National Public Radio*. January 1, 2018. Accessed January 4, 2018. <https://www.npr.org/sections/thetwo-way/2018/01/01/574952304/chinas-ban-on-its-domestic-ivory-trade-takes-effect>.
- Eagles, Paul F.J. and Stephen F. McCool. *Tourism in National Parks and Protected Areas: Planning and Management*. New York: CAB International, 2002.
- Edge, Jane. "What are NGOs Doing to Stop the Slaughter of Africa's Elephants?" *Africa Geographic Magazine*, April 17, 2015.
- Vanishing Point: Criminality, Corruption, and the Devastation of Tanzania's Elephants. Kenilworth, UK. *Environmental Investigation Agency*, 2014. <https://eia-international.org/wp-content/uploads/EIA-Vanishing-Point-lo-res1.pdf>.
- Farah, Douglas. "Intelligence Report Links Al Qaeda to Janjaweed in Sudan." *The Douglas Farah Blog*, December 19, 2006. Accessed September 16, 2017. <http://blog.douglasfarah.com/article/75/intelligence-report-links-al-qaeda-to-janjaweed-in-sudan>.
- Fowler, Robert. R. "Report of the Panel of Experts on Violations of Security Council Sanctions Against UNITA." *United Nations Security Council*, New York, NY, 2000.
- Feige, Edgar, L. "Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach." *World Development* 18, no. 7 (1990): 989-1002.
- Gaddis, John L. *The Landscape of History: How Historians Map the Past*. New York: Oxford University Press, 2002.
- Gettleman, Jeffrey. "Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits," *New York Times*, September 3, 2012. Accessed September 17, 2017. <http://www.nytimes.com/2012/09/04/world/africa/africas-elephants-are-being-slaughtered-in-poaching-frenzy.html?mcubz=0>.
- Gibson, Clark C. *Politicians and Poachers: The Political Economy of Wildlife Policy in Africa*. Cambridge, UK: Cambridge University Press, 1999.
- Global Conservation. "Park Rangers on the Frontline Being Killed at an Astonishing Rate from India to Thailand to Africa." Last modified March 31, 2016. Accessed February 28, 2018. <http://globalconservation.org/news/park-rangers-frontline-being-killed-astonishing-rate-new-solutio/>.

- Global Policy Forum. "Kimberley Process." *Global Policy Forum*. Accessed February 10, 2018. <https://www.globalpolicy.org/the-dark-side-of-natural-resources-st/diamonds-in-conflict/kimberley-process.html>.
- Global Witness and Pamela Wexler. "An Independent Commissioned Review Evaluating the Effectiveness of the Kimberley Process." *Global Witness*. London, 2006.
- Haken, Jeremy. "Transnational Crime in the Developing World." *Global Financial Integrity Center for International Policy*, Washington, DC, 2011.
- Hampton, H. Duane. *How the U.S. Cavalry Saved Our National Parks*. Bloomington, IN: Indiana University Press, 1971.
- Hanson, T., Brooks, et al. "Warfare in Biodiversity Hotspots." *Conservation Biology* 23, no. 3 (2009): 578–587.
- Haufler, Virginia. "The Kimberley Process Certification Scheme: An Innovation in Global Governance and Conflict Prevention." *Journal of Business Ethics* 89, sup. 4 (2009): 403-416.
- International Union for Conservation of Nature. "Endangered Species." International Union for Conservation of Nature. Accessed February 1, 2018. <http://www.iucnredlist.org/>.
- Jacoby, Karl. *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation*. Los Angeles: University of California Press, 2001.
- "Kenya Wildlife Services Salaries." Accessed March 12, 2018. <https://www.fixusjobs.com/kenya-wildlife-service-kws-salaries/>.
- Koehl, Dan. "Value of Elephant Ivory." *Save the Elephants*. Accessed January 8, 2018. <http://www.elephant.se/ivory.php>.
- Koros, Kibiwott, 'We Will Contain Poaching - KWS director Julius Kipng'etich,' *The Star*. April 23, 2012. <http://www.the-star.co.ke/news/article-21389/we-will-contain-poaching-kws-director-julius-kipngetch>.
- Kuhn, Thomas. *The Structure of Scientific Revolutions*, 3<sup>rd</sup> ed. Chicago: University of Chicago Press, 1996.
- Lachicotte, George P. III. "Beyond the Border: Mexico's Internal Conflict is the United States' Problem." Masters thesis, School of Advanced Military Studies, 2013.
- Lamplugh, Rick. "The Poaching and Saving of Yellowstone's Wildlife." *Yellowstone Reports*. Accessed February 9, 2018. <https://www.yellowstonereports.com/report.php?date=2017&cid=4034>.
- Levy, Adrian and Cathy Scott-Clark. "Poaching for Bin Laden." *The Guardian*. May 4, 2007. Accessed September 18, 2017. <https://www.theguardian.com/world/2007/may/05/terrorism.animalwelfare>.

- Lowry, William R. *The Capacity for Wonder: Preserving National Parks*. Washington, DC: The Brookings Institution, 1994.
- Mazzitelli, Antonio L. "Transnational Organized Crime in West Africa: The Additional Challenge." *International Affairs* 83, no. 6 (2007): 1071-1090.
- Nellermann, Christian, et al. "Elephants in the Dust: The African Elephant Crisis: A Rapid Response Assessment." *United Nations Environment Program*. 2013.
- Okello, Moses M., Bobby E. Wishitemi, and Avignon M. Mwinzi. "Relative Importance of Conservation Areas in Kenya Based on Diverse Tourist Attractions." *Journal of Tourism Studies Vol 12*, No 1. (May 2001): 39-49.
- Okello, Moses M., Stephani G. Manka, and Danielle E. D'Amour. "The Relative Importance of Large Mammal Species for Tourism in Amboseli National Park, Kenya." *Tourism Management* 29 (2008): 751-760.
- Poaching Facts. "Buyers of Elephant Ivory." Poaching Facts: Truths from the Front-Line. Last modified October 27, 2017. Accessed January 8, 2018. <http://www.poachingfacts.com/faces-of-the-poachers/buyers-of-ivory/>.
- Putnam, Robert. "Diplomacy and Domestic Politics: The Logic of Two-Level Games." *The MIT Press* 42, no. 3 (Summer 1988): 427-460.
- Rapaport, Martin. "Blood Money." *Rapaport*. Last modified November 5, 1999. Accessed February 10, 2018. <http://www.diamonds.net/News/NewsItem.aspx?ArticleID=3347>.
- Rapaport Trade Wire. "World Diamond Council calls for International Government Action on Conflict Diamonds." *Rapaport Trade Wire* September 8, 2000.
- Repanshek, Kurt. "Rise in National Park Visitation Last Year Produced \$35 Billion Economic Boost." *National Park Traveler*. April 20, 2017. Accessed February 5, 2018. <https://www.nationalparkstraveler.org/2017/04/rise-national-park-visitation-last-year-produced-35-billion-economic-boost>.
- Rivett-Carnac, Mark. "Mali's Desert Elephants, on Edge of Annihilation, Get a Fighting Chance." *New York Times*. October 29, 2017. Accessed October 20, 2017. <https://www.nytimes.com/2017/10/29/world/africa/mali-elephants-gourma.html>.
- Runte, Alfred. *National Parks: The American Experience* 3rd ed. Lincoln, NE: University of Nebraska Press, 1997.
- Runte, Alfred. *Trains of Discovery: Western Railroads and the National Parks*. Flagstaff, AZ: Northland Press, 1984.
- Sas-Rolfes, Michael T. "The Rhino Poaching Crisis: A Market Analysis," *Save the Rhino Trust*. February 2012. Accessed March 12, 2018. <http://savetherhinotrust.org/component/content/article/7-rhino-news/84-the-rhino-poaching-crisis-a-market-analysis>.
- Sellers, Richard. *Preserving Nature in the National Parks*. New Haven, CT: Yale University Press, 1997.

- Smillie, Ian., Lansana Gberie and Ralph Hazleton. "The Heart the Matter: Sierra Leone, Diamonds, and Human Security." *Partnership Africa Canada*. (January 2000). Accessed October 3, 2017. <https://www.africaportal.org/publications/the-heart-of-the-matter-sierra-leone-diamonds-and-human-security/>.
- Spence, Mark D. *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks*. New York: Oxford University Press, 1999.
- "Tourism." Last modified November 2017. Accessed November 22, 2017. <http://www.tanzaniainvest.com/>
- Transparency International. "Tanzania." Transparency International Corruption Perceptions Index. Last modified January 25, 2017. Accessed February 8, 2018. [https://www.transparency.org/news/feature/corruption\\_perceptions\\_index\\_2016](https://www.transparency.org/news/feature/corruption_perceptions_index_2016).
- Tremblay, Sophie. "Leading Elephant Conservationist Shot Dead in Tanzania." *The Guardian*. August 17, 2017. Accessed February 14, 2018. <https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania>.
- Ullman, Richard H. "Redefining Security." *The MIT Press* 8 no. 1 (1983) 129-153.
- US Congress. Yellowstone National Park, U.S. Statutes at Large 229. 45th Cong., 2nd sess., IV Part 3. *Congressional Record* 229. (June 20, 1878).
- US Congress. Yellowstone National Park. 47th Cong., 1st sess., *Congressional Record serial 2018* (1881).
- US Congress. Yellowstone National Park, 48<sup>th</sup> Cong., 1st sess., *Congressional Record*, (December 4, 1883): Senate Bill 221.
- US Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0, *Operations*. Washington, DC: Government Printing Office, 2016.
- US Department of War. *General Sheridan to the Secretary of War. August 9, 1886*. National Archives file 3997.
- US Fish & Wildlife Services. "USFWS History." Last modified March 7, 2014. Accessed February 5, 2018, <https://training.fws.gov/history/USFWS-history.html>.
- US President. National Security Strategy (February 2015).
- US Joint Chiefs of Staff, Joint Publication (JP) 3-03, *Joint Interdiction*. Washington, DC: Government Printing Office, 2016.
- Vallianos, Christina. "Pangolins on the Brink." *Wild Aid* September 21, 2016. Last modified September 21, 2016. Accessed February 28, 2018. <http://wildaid.org/wp-content/uploads/2017/09/WildAid-Pangolins-on-the-Brink.pdf>.
- van der Zee, Bibi. "Top Ivory Investigator Murdered in Kenya." *The Guardian*. February 5, 2018. Accessed February 14, 2018. <https://www.theguardian.com/environment/2018/feb/05/leading-ivory-trade-investigator-killed-in-kenya>.

- Warthin, Morgan. "Tourism to Yellowstone National Park Creates \$680.3 Million in Economic Benefits." *National Park Service*. Last modified April 21, 2017. Accessed September 28, 2017. <https://www.nps.gov/yell/learn/news/17020.htm>.
- Wasser, Samuel et al. "Elephants, Ivory, and Trade." *Science* 327, issue 5971 (March 12, 2010): 1331-1332.
- Wilson-Wilde, Linzi. "Wildlife Crime: A Global Problem." *Forensic Science and Medical Pathology* 6, no. 3 (May 29, 2010): 221-222.
- World Diamond Council. "About WDC," *World Diamond Council*. Last modified December 14, 2017. Accessed February 10, 2018. <https://www.worlddiamondcouncil.org/aboutwdc/who-we-are>.
- World Wildlife Fund. "African Elephant." Last modified January 31, 2018. Accessed February 21, 2018. <https://www.worldwildlife.org/species/african-elephant>.
- World Wildlife Fund. "Black Rhinoceros." Last modified February 27, 2017. Accessed February 21, 2018. <https://www.worldwildlife.org/species/black-rhino>.
- Wright, Joanna, et al. "Transnational Organized Crime in Eastern Africa: A Threat Assessment." Vienna, Austria: United Nations Office on Drugs and Crime, September 2013.
- Wylar, Liana S., Sheikh, Pervaze A. "International Illegal Trade in Wildlife: Threats and U.S. Policy." *CRS Report for Congress* (March 3, 2008).