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# ORGANIZED CRIME AND THE ILLICIT WILDLIFE TRADE IN MEXICO

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May 2017

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Taylor P. Barth

“Organized Crime and the Illicit Wildlife Trade in Mexico”

## Introduction

*“Their [the cartels] branching out mimics the behavior of legitimate companies. Firms looking to grow, and especially those with surplus cash to invest (always a problem for criminal organizations, for whom banking is tricky), strike out into new markets where they believe their existing expertise could give them a head start.”<sup>1</sup>*

In 2013, President Barack Obama signed an executive order on combating wildlife trafficking. This brought a criminal activity of enormous consequence for international and environmental security into the spotlight, adding a sense of urgency to a problem that until then had been left largely to the efforts of conservation specialists and international nongovernmental organizations (NGOs). Indeed, the trafficking of exotic and endangered animals and products derived from them is a crime only on par with the illegal trade in drugs, people, and weapons in terms of scale and impact. Illicit wildlife trade is estimated to generate between US\$5 and US\$23 *billion* worldwide in revenue for the poachers, smugglers, and salesmen whose business it is to plunder nature for a quick profit.

One of the most important settings for this business is also one of the bloodiest battlegrounds in the war on drugs: Mexico. Home to some 10 to 12 percent of the biodiversity on the planet, Mexico is not just a source of wildlife for the illicit trade, but also serves as one of the principal trafficking and distribution hubs for criminal networks seeking to enter the U.S., European, and Asian markets.<sup>2</sup> As the gateway to the estimated \$2 billion illegal wildlife trade in the United States, Mexico is *the* major hub for large, transnational criminal organizations that source wildlife from all over the Caribbean, Central and South America, and especially, the Amazon.<sup>3</sup> Mexican transnational criminal syndicates have massive, diverse sets of assets and skills that facilitate the illegal wildlife trade, using trafficking patterns honed in drug, human, and arms smuggling operations.

This paper analyzes the links between transnational organized crime and the illicit wildlife trade in Mexico. It begins with an analysis of the trade on an international scale, establishing context for the subsequent focus on Mexico. This includes a discussion of the business models and operations of major transnational wildlife smuggling syndicates in Africa and Asia, as they are some of the most heavily scrutinized cases and offer helpful frameworks that can be applied to Mexican criminal networks involved in wildlife trafficking. The paper then focuses on the dynamics of Mexico’s black market in wildlife and the involvement of Mexican organized crime networks in trafficking animals globally. The goal is to establish typologies of some of the principal networks involved in this business: supply chains, trade routes, links to government and businesses, sourcing methods, and more. By providing a breakdown of the actors hastening the destruction of

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<sup>1</sup> Tom Wainwright, *Narconomics: How to Run a Drug Cartel* (New York: Public Affairs, 2017).

<sup>2</sup> “Mexico Program,” U.S. Fish and Wildlife Service, accessed March 15, 2017, <https://www.fws.gov/international/wildlife-without-borders/mexico/>.

<sup>3</sup> “Illegal Wildlife Trade in the Amazon,” World Wide Fund for Nature, accessed May 31, 2017, [http://wwf.panda.org/what\\_we\\_do/where\\_we\\_work/amazon/amazon\\_threats/other\\_threats/illegal\\_wildlife\\_trade\\_amazon/](http://wwf.panda.org/what_we_do/where_we_work/amazon/amazon_threats/other_threats/illegal_wildlife_trade_amazon/).

so many critically endangered species worldwide, I hope to provide policymakers with a better understanding of the seriousness of this crime and some potential policy options that might help the international community in apprehending the culprits.

## Research Methods

Because of the nature of this topic, my study relied on open-source research, as well as on secondary sources that include government and NGO reports, news articles, and academic publications. Much of my research was also conducted through interviews with current and former special agents of the U.S. Fish and Wildlife Service, as well as with two academics who focus on Mexican environmental and security studies.

For a conceptual understanding of the inner workings of wildlife trafficking networks, I relied heavily on a model created by Virun Vira, Thomas Ewing, and Jackson Miller for the nonprofit organization C4ADS in their report *Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory*. In establishing a general understanding of the illicit wildlife trade in Mexico, I used a report by Alejandra Goyenechea and Rosa A. Indenbaum for Defenders of Wildlife titled *Combating Wildlife Trafficking from Latin America to the United States: The Illegal Trade from Mexico, the Caribbean, Central America and South America and What We Can do to Address It*.

## The Global Black Market & Wildlife

There is a common notion that the illicit trafficking of products, people, and natural resources is as old as civilization itself. Globalization, however, has changed the scope and breadth of what was once simply known as smuggling. Moisés Naím attributes the escalation of this phenomenon from a “nuisance” into a global threat to stability to several factors: the market-oriented economic reforms that swept the world in the 1990s, new technologies in the hands of civilians, and the criminalization of new activities such as file sharing.<sup>4</sup> He argues that when combined, these trends expanded the scope of international crime and created numerous opportunities for those willing to deal with the risks associated with breaking limited and poorly enforced international laws. The global black market is vast, and while a discussion of its broader impacts is beyond the scope of this paper, one of its most concerning effects is a concentration of capital and power in the hands of criminal organizations that do not hesitate to use violence, spread fear, fuel corruption, hamper economic development, and cause environmental destruction in the name of generating profit.<sup>5</sup>

This world of illicit trade involves people around the globe, from terrorists and pirates operating around the Horn of Africa to teenagers surfing the dark web in Europe and North America. It supplies businessmen in Southeast Asia with rhino horn, guerilla groups

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<sup>4</sup> Moisés Naím, *Illicit: How Smugglers, Traffickers, and Copycats Are Hijacking the Global Economy* (London: Arrow, 2007), 2-3.

<sup>5</sup> “Transnational organized crime: the globalized illegal economy,” United Nations Office on Drugs and Crime, accessed January 6, 2018, <https://www.unodc.org/toc/en/crimes/organized-crime.html>.



in Latin America with weapons from the former Soviet Union, and farms in the United States with cheap labor. For people and businesses willing to break the rules, the rewards can be immense. One estimate puts the size of the global black market at 22.7 percent of global GDP.<sup>6</sup>

Anywhere from \$5 billion to \$23 billion of this global black market is derived from the sale of animals and their body parts,<sup>7</sup> which is happening at a time of massive changes in worldwide biodiversity. The Center for Biological Diversity, an NGO committed to the protection of endangered species, reports:

Our planet is now in the midst of its sixth mass extinction of plants and animals—the sixth wave of extinctions in the past half-billion years. We’re currently experiencing the worst spate of species die-offs since the loss of the dinosaurs 65 million years ago. Although extinction is a natural phenomenon, it occurs at a natural “background” rate of about one to five species per year. Scientists estimate we’re now losing species at 1,000 to 10,000 times the background rate, with literally dozens going extinct every day. It could be a scary future indeed, with as many as 30 to 50 percent of all species possibly heading toward extinction by mid-century.<sup>8</sup>

Most estimates place utilization by humans—whether as food and/or medicine, or to make assorted products such as clothing and accessories—as one of the principal threats to species survival. According to a 2008 report, half of all mammalian species consumed by humans that are threatened with extinction are “critically endangered.”<sup>9</sup> Moran and Kanemoto write that reliable estimates indicate “at least one-third of biodiversity threats worldwide are linked to production for international trade.”<sup>10</sup> The nonhuman natural world is under immense pressure, and the demand for illicitly sourced animals is a driving factor behind a worldwide decline in biodiversity.

The demand for wildlife and animal products is rooted in many factors. For instance, much of the global trade is motivated by a high demand for exotic animal parts in Southeast Asia and China in particular. According to journalist David Smith, “A substantial portion of the illegal goods are then shipped to Asia, where demand is driven by the need for specific animal parts to practice traditional Asian medicine, for human consumption,

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<sup>6</sup> “How Big Is the World Black Market?” *Freakonomics Blog*, June 25, 2012, <http://freakonomics.com/2012/06/25/how-big-is-the-world-black-market/>.

<sup>7</sup> Channing May, *Transnational Crime and the Developing World* (Washington, D.C.: Global Financial Integrity, 2017), <https://www.scribd.com/document/342932042/Global-Financial-Integrity-Transnational-Crime-and-the-Developing-World>.

<sup>8</sup> “The Extinction Crisis,” Center for Biological Diversity, accessed April 10, 2017, [http://www.biologicaldiversity.org/programs/biodiversity/elements\\_of\\_biodiversity/extinction\\_crisis/](http://www.biologicaldiversity.org/programs/biodiversity/elements_of_biodiversity/extinction_crisis/).

<sup>9</sup> Jean-Christophe Vié, Craig Hilton-Taylor, and Simon N. Stuart, eds., *Wildlife in a Changing World: An Analysis of the 2008 IUCN Red List of Threatened Species* (Gland, Switzerland: International Union for Conservation of Nature and Natural Resources, 2009), <https://portals.iucn.org/library/sites/library/files/documents/RL-2009-001.pdf>.

<sup>10</sup> Daniel Moran and Keiichiro Kanemoto, “Identifying Species Threat Hotspots from Global Supply Chains,” *Nature Ecology & Evolution* 1 (January 2017), <http://doi.org/10.1038/s41559-016-0023>.

and as symbols of wealth.”<sup>11</sup> But Asia is not the only, or even the principal, region behind global demand for endangered wildlife. Defenders of Wildlife, one of the largest NGOs devoted to conservation in North America, reports that “The United States is one of the world’s largest consumers of illegal smuggled wildlife and wildlife products, with a domestic market value estimated at \$2 billion.”<sup>12</sup> Furthermore, they state that the products in highest demand, according to seizure data provided by the U.S. Fish and Wildlife Service (USFWS), were “meat, fins, medicinal products, feathers, and shell products.”<sup>13</sup> Finally, Europe is another major destination for wildlife products from all over the world.<sup>14</sup> For instance, Ireland and the Czech Republic are two of the largest markets for rhino horn, surpassed only by Vietnam and China.<sup>15</sup>

This trade is increasingly dominated by shadowy and extensive criminal networks that are adept at smuggling all kinds of illicit products across borders; it comes with huge rewards and low risk. An anonymous law enforcement source quoted in *The Economist* offers insight:

None of what we do for drugs do we do for wildlife trafficking. Extraditions are rare. There are no controlled deliveries. Sophisticated investigative techniques are seldom deployed. We’re not doing any of the things we could be doing to stop it.<sup>16</sup>

Unlike the smuggling of drugs, arms, and humans, wildlife trafficking is not treated as a serious threat to global stability. Perhaps governments and their citizens feel that there are greater challenges to be confronted. More likely, however, wildlife crime is not taken seriously because many people are simply unaware of its impacts, according to those who investigate such crimes. David Hubbard, special agent in charge of the Special Operations Division and International Operations Unit of USFWS, states, “Sometimes I’ll be talking with officials in other countries on the phone about these issues and they won’t have realized how serious these crimes are.”<sup>17</sup>

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<sup>11</sup> David Smith, “The Economics Of The Illegal Wildlife Trade,” *Economy Watch*, May 29, 2013, <http://www.economywatch.com/economy-business-and-finance-news/the-economics-of-the-illegal-wildlife-trade.29-05.html>.

<sup>12</sup> “New Report Shows Extent of Wildlife Trafficking From Latin America to the United States,” *Defenders of Wildlife*, October 13, 2015, <https://www.defenders.org/press-release/new-report-shows-extent-wildlife-trafficking-latin-america-united-states>.

<sup>13</sup> “4 Facts about Wildlife Trafficking in the United States,” *Defenders of Wildlife Blog*, February 18, 2016, <http://www.defendersblog.org/2015/11/4-things-you-didnt-know-about-wildlife-trafficking-and-the-united-states/>.

<sup>14</sup> Kevin Xie, “Crime Gone Wild: The Dangers of the International Illegal Wildlife Trade,” *Harvard International Review* 36, no. 4 (2015). <http://hir.harvard.edu/crime-gone-wild-the-dangers-of-the-international-illegal-wildlife-trade/>.

<sup>15</sup> Irene Banos Ruiz, “Europe, a Silent Hub of Illegal Wildlife Trade,” *Deutsche Welle*, January 20, 2017, <http://www.dw.com/en/europe-a-silent-hub-of-illegal-wildlife-trade/a-37183459>.

<sup>16</sup> “The Trade in Wild Animal Parts (I): Last Chance to See?” *The Economist*, April 16, 2016, <http://www.economist.com/news/international/21696961-first-two-articles-we-look-how-poachers-smugglers-and-lax-law-enforcement>.

<sup>17</sup> David Hubbard, special agent in charge, U.S. Fish and Wildlife Service, in a telephone interview with the author, April 13, 2017.

## International Trends in the Trafficking of Wildlife by Organized Crime

*“The profits from wildlife trafficking are increasingly used by transnational criminal organizations and even terrorist groups to fund other actions that endanger global stability.”*

—Kevin Xie<sup>18</sup>

Before discussing the particulars of the illicit wildlife trade in Mexico, it is important to examine several trends in wildlife crime on the international stage. While the demand side of the illicit wildlife trade is diverse, large transnational criminal syndicates increasingly dominate the supply side. These shadowy, parasitic criminal groups are increasingly taking over the entirety of the supply chain. In June 2016, William Woody, chief of the USFWS Office of Law Enforcement, testified before the House Committee on Foreign Affairs: Wildlife trafficking once was predominantly a crime of opportunity committed by individuals or small groups. Today, it is the purview of international criminal cartels that are well structured, highly organized, and capable of illegally moving large commercial volumes of wildlife and wildlife products. What was once a local or regional problem has become a global crisis, as increasingly sophisticated, violent, and ruthless criminal organizations have branched into wildlife trafficking. Organized criminal enterprises are a growing threat to wildlife, the world’s economy, and global security.<sup>19</sup>

The actual hunting of most wildlife is carried out not by mafias or cartels, but by poor, often indigenous hunters and/or farmers who live within range of target animals’ habitats in Africa, Asia, and Latin America. A poacher in East Africa might only make \$200 for an elephant, while the profits for the criminals further along the chain increase exponentially as they get closer to the buyer.<sup>20</sup> Many efforts, supported by both governments and NGOs, are aimed at reducing the incentives for locals to engage in poaching. Most of those arrested worldwide for wildlife trafficking tend to be lower-level poachers; rarely are the criminals who actually manage the supply chain caught and convicted.<sup>21</sup>

Once the animal has been harvested, it is usually sold or transferred to “brokers and middlemen” who often maintain stockpiles of wildlife and wildlife products, package the shipments, and “move the materials across borders and launder associated revenues.”<sup>22</sup>

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<sup>18</sup> Xie, “Crime Gone Wild.”

<sup>19</sup> Testimony of William Woody, Chief, Office of Law Enforcement, U.S. Fish and Wildlife Service, Department of the Interior, before the U.S. House of Representatives, Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade and Committee on Armed Services, Subcommittee on Emerging Threats and Capabilities regarding “Stopping The Money Flow: The War On Terror Finance,” June 9, 2016, <https://www.fws.gov/le/pdf/ChiefWoodyTestimonyHOCR-HASC6-9-16%20FINAL.pdf>.

<sup>20</sup> Hubbard, interview with author.

<sup>21</sup> Bradley Anderson and Johan Jooste, *Wildlife Poaching: Africa’s Surging Trafficking Threat* (Washington, D.C.: Africa Center for Strategic Studies, May 2014), <http://africacenter.org/wp-content/uploads/2015/12/ACSS-Africa-Security-Brief-No.-28-EN.pdf>.

<sup>22</sup> Ibid.

One of the most extensive (and, unlike most work on this subject, publicly available) reports on the actual structure of the supply chain for illicit wildlife products was written by Virun Vira, Thomas Ewing, and Jackson Miller, titled *Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory*. In this report, they analyze the dynamics of how African and Asian organized crime groups operate across borders and reap huge rewards. Due to the similar nature of some of their products (high value per volume of ivory and rhino horn is similar to products like totoaba bladder), and especially their destination markets, their model offers some insight into the potential structure of Mexican criminal networks involved in illicit wildlife trade.

According to Vira, Ewing, and Miller's conceptual model, transnational criminal networks that traffic ivory from Africa to Asia are comprised of many layers and vary in their level of "vertical integration." The authors state that the higher the level of vertical integration, "the more functional steps a network is able to control... and thus the higher its potential profit margin and the commensurate levels of organization and sophistication required." They report that local criminal groups often control the "collection" and "local transport" phases, meaning that the financier/s, informants, hunters, outfitters, collectors, transporters, and corrupt local officials all belong to criminal groups that operate in the source country. However, after the local transportation stage in Africa, the ivory is then placed in the care of Asian criminal syndicates that handle the packaging, international shipping (including the export and importing stages), marketing, and sale of the product. Vira, Ewing, and Miller's model suggests that the Asian criminal syndicates are comprised of "consignors, freight forwarders, clearing agents, customs agents, shipping agents, container agents, consignees, transporters (in market countries), trucking agents, factory owners, carvers, and retailers," among others. Increasingly, they write, the Asian criminal networks appear to be expanding along both ends of the chain, meaning they are moving closer to controlling all aspects of the business, from the actual sourcing of the animals to the final sale in market.<sup>23</sup>

## Mexico

*"According to Mexico's National Commission for Knowledge and Use of Biodiversity, Mexico makes up only 1 percent of the Earth's land area but is home to an amazing 10 percent of all of the species known to science."*<sup>24</sup>

Mexico is home to hundreds of endangered species, "including sea turtles, gray whale, bats, condor, jaguar, manatee, pronghorn, desert sheep, insects (such as the monarch butterfly), and a large variety of migratory birds."<sup>25</sup> Its mountainous terrain, ample coastline on both the Atlantic and Pacific Oceans, diversity of ecosystems (from deserts to lush rainforests),

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<sup>23</sup> Varun Vira, Thomas Ewing, and Jackson Miller, *Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory* (Washington, D.C.: C4ADS, August 2014), <https://static1.squarespace.com/static/566ef8b4d8af107232d5358a/t/56af83ee1f40390e88337743/1454343151910/Out+of+Africa.pdf>.

<sup>24</sup> "Mexico Program."

<sup>25</sup> Ibid.



and position between greater North America and Central and South America contribute to Mexico's status as one of the 17 "megadiverse" countries on the planet.<sup>26</sup>

Unfortunately, as has been the case with the drug trade and human trafficking, Mexico's geographic and geopolitical position also makes it an ideal country of transit for those seeking to profit from trade in endangered species. According to data provided by the USFWS, some 18.9 percent of illegal wildlife shipments intercepted at U.S. ports between 2005 and 2014 were exported from Mexico.<sup>27</sup> Furthermore, the data provided by the USFWS indicates that this represents 70 percent of the total shipments intercepted from the entire Latin American region. To put it simply, Mexico is the primary conduit for the sale and shipment of illicit wildlife from Central and South America and the Caribbean.

Mexico's black market is controlled by large criminal syndicates that make much of their revenue in the drug trade, but their control extends into virtually all markets. As David Hubbard describes, "The cartels tax anything that comes through, legal or illegal."<sup>28</sup> Take the Sinaloa Cartel, for instance. At one point, it was widely considered to be the largest of the Mexican criminal networks, possibly employing as many as 150,000 people.<sup>29</sup> By conservative estimates, they controlled between 40 and 60 percent of the illegal drug market in the U.S., meaning they brought in a yearly profit of \$3 billion (again, based on conservative estimates of the size of the U.S. drug market).<sup>30</sup> Tom Wainright asserts that, like any major multinational firm, cartels "strike out into new markets where they believe their existing expertise could give them a head start."<sup>31</sup> He goes on to argue that this practice mirrors the diversification of large American companies like Coca-Cola during the 1950s–1970s. He writes that "the business of smuggling things over the border in secret, bribing or intimidating public servants along the way, is a skill that can be applied across various industries."<sup>32</sup>

One of those industries, according to Special Agent Hubbard, is wildlife trafficking. While some cartels pursue a parasitic, territorial business model that emphasizes "taxing" and extorting any and all businesses within their area of control, others seem to have dedicated themselves to the smuggling of assorted goods, namely drugs.<sup>33</sup> However, the major "narcos" also have a well-established tendency to prefer business that maximizes profit while minimizing "what Peter Reuter and Mark Kleiman once referred to, in a classic essay

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<sup>26</sup> "¿Qué Es Un País Megadiverso?" Comisión Nacional Para El Conocimiento Y Uso De La Biodiversidad, Accessed April 10, 2017, <http://www.biodiversidad.gob.mx/pais/quees.html>.

<sup>27</sup> Alejandra Goyenechea, *Trends in Wildlife Imports from Latin America Denied Entry to the U.S.* (Washington, D.C.: Defenders of Wildlife, May 2016), [http://www.defenders.org/sites/default/files/publications/trends\\_in\\_wildlife\\_trade\\_from\\_latin\\_america\\_to\\_the\\_us.pdf](http://www.defenders.org/sites/default/files/publications/trends_in_wildlife_trade_from_latin_america_to_the_us.pdf).

<sup>28</sup> Hubbard, interview with author.

<sup>29</sup> Patrick Radden Keefe, "Cocaine Incorporated: How a Mexican Drug Cartel Makes Its Billions," *The New York Times Magazine*, June 15, 2012, <http://www.nytimes.com/2012/06/17/magazine/how-a-mexican-drug-cartel-makes-its-billions.html>.

<sup>30</sup> Ibid.

<sup>31</sup> Wainright, *Narconomics*, 195.

<sup>32</sup> Ibid.

<sup>33</sup> Keefe, "Cocaine Incorporated."

on the drug business, as ‘the marginal imprisonment risk.’”<sup>34</sup> As will become apparent in the upcoming discussion on the case of the totoaba fish, the risks of being caught and convicted for wildlife crime in Mexico are extremely low, which appears to be incentivizing a diverse set of criminal networks to partake in the trade.

In his 2015 testimony to the House Committee on Foreign Affairs, Robert Dreher, associate director of USFWS, stated:

Despite the government of Mexico’s increased security concerns and commitments to increase border security and dismantle illicit transnational organized crime rings operating within Mexico, criminal networks continue to emerge as major players in a number of smuggling activities to include trafficking endangered animal species, including local species such as bighorn sheep (Borrego Cimarrón) and the swim bladders of the endangered totoaba fish.<sup>35</sup>

Interviews with a USFWS special agent and an academic who focuses on Mexican organized crime confirmed this assessment.<sup>36</sup> “There are direct, clear links that some of the cartels are involved in more than just taxing the routes,” reports Hubbard.<sup>37</sup>

What are these links? According to Hubbard, much of the evidence is classified. But there are several indicators available in the open-source realm that lend insight into the level of influence exerted by the cartels on the trade of exotic animals.

First and foremost, given the tendency of the major cartels to tax any goods that move through their territories, some idea of the specific criminal groups involved in the illicit wildlife trade in Mexico might be gleaned by examining the preferred wildlife trafficking routes and the criminal territories they pass through. According to USFWS seizure data, the main ports of entry for illegal wildlife shipments originating from Mexico are El Paso, Nogales, Laredo, and San Diego, respectively.<sup>38</sup> Presumably, this would make the Juárez Cartel, the Sinaloa Cartel, *Cartel Jalisco Nueva Generación* (CJNG), *Los Zetas*, and other major cartels the primary actors in the exotic animal trade, but the exact groups have yet to be confirmed in the literature on the subject. Furthermore, circumstantial evidence would seem to suggest links between Mexican and Asian criminal networks in the sale of wildlife products, which is discussed in detail below in a section on the endangered totoaba fish.

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<sup>34</sup> Ibid.

<sup>35</sup> Testimony of Robert Dreher, Associate Director, U.S. Fish and Wildlife Service, Department of the Interior, Before the U.S. House of Representatives, Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade on “Poaching And Terrorism: A National Security Challenge,” April 22, 2015, <http://docs.house.gov/meetings/FA/FA18/20150422/103355/HHRG-114-FA18-Wstate-DreherR-20150422.pdf>.

<sup>36</sup> Hubbard, interview with author; and Nathan P. Jones, nonresident scholar in drug policy and Mexico studies, Baker Institute for Public Policy, in a telephone interview with the author, April 14, 2017.

<sup>37</sup> Hubbard, interview with author.

<sup>38</sup> Goyenechea, *Trends in Wildlife Imports*.

Another indicator of substantial ties between major Mexican “cartels” and the trade in exotic and illicit wildlife becomes apparent simply by viewing social media accounts linked to high-profile Mexican *narcos* and their families. Patricio Patrón Lavada, head of Mexico’s Federal Agency for Environmental Protection, stated, “It’s a show of power and is incredibly common in the criminal underworld. The worst of the worst have exotic animals.”<sup>39</sup>

As a status symbol, animals like lions, tigers, large snakes, and exotic birds have long been sought after. Colombian drug lord Pablo Escobar had a private zoo that included hippos, and the idea seems to have caught on with Mexican cartel leaders as well.<sup>40</sup> It is even rumored that the former leader of *los Zetas* fed his rivals to two tigers and a lion that he kept on his ranch.<sup>41</sup> While tigers can be legally purchased in Mexico for a few thousand dollars because they can be bred in captivity with relative ease, there is a strong possibility that Mexican criminal groups use these same “legal” channels to acquire even more exotic animals—endangered species. Mexican laws governing the sale and ownership of exotic animals are opaque at best and poorly enforced.<sup>42</sup> Furthermore, the prevalence of exotic animals and private zoos on cartel property might be indicative not just of private ownership of these animals by cartel leaders, but also of involvement in their trafficking.

Juan Carlos Cantú, director of Mexico programs for Defenders of Wildlife, argues, “the mark of organized crime involvement is always violence.” He elaborated on three examples of how criminal groups have used violence to control the illegal trade in natural resources in Mexico: the use of beatings, torture, and even death to force entire rural communities to “seek, log, and transport” rosewood trees for sale in Asian markets; the control of fishing communities in the Yucatan Peninsula, including the recent seizure of a load of sea cucumbers by gunmen who forced fishermen to shed their clothes and jump overboard, resulting in the drowning of at least one; and the involvement of criminal groups in the totoaba trade in the Gulf of California.<sup>43</sup>

The totoaba case is the best publicly available indicator of heavy involvement in wildlife smuggling by major criminal networks in Mexico. An examination of how this fish is smuggled across the globe provides a concrete study in just how heavily this trade is controlled by sophisticated transnational criminal groups.

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<sup>39</sup> Mica Rosenberg, “Exotic Animals Trapped in Net of Mexican Drug Trade,” *Reuters*, February 5, 2009, <http://www.reuters.com/article/us-mexico-drugs-animals-idUSTRE51503V20090206>.

<sup>40</sup> “Pablo Escobar’s Hippos: A Growing Problem,” *BBC World Service*, June 26, 2014, <http://www.bbc.com/news/magazine-27905743>.

<sup>41</sup> Rosenberg, “Exotic Animals Trapped.”

<sup>42</sup> Duncan Tucker, “It’s Basically Legal for Mexican Narcos to Buy Lions, Cheetahs, and Other Exotic Pets,” *Vice News*, September 2, 2015, <https://news.vice.com/article/its-basically-legal-for-mexican-narcos-to-buy-lions-cheetahs-and-other-exotic-pets>.

<sup>43</sup> Juan Carlos Cantú, Defenders of Wildlife, in an interview with the author via email, May 31, 2017.

## Case Study: The Totoaba

*“The totoaba can grow to the size of a football player. It lives only in the Gulf of California in Mexico, along with the world’s rarest marine mammal—an endangered porpoise called the vaquita. Now the new and lucrative bladder trade threatens to wipe out both animals.”*

—Christopher Joyce, NPR<sup>44</sup>

The majority of Mexico’s fishing industry is located in the Sea of Cortez (also known as the Gulf of California).<sup>45</sup> Unfortunately, it is also home to the totoaba fish and a small porpoise called the vaquita, which are both endangered. The bladder of the totoaba is highly valued in China, particularly in Hong Kong markets. Commonly known as “maw,” fish bladder is used as a traditional medicine in China and other parts of Asia. The totoaba bladder is even referred to as “golden coin maw” or “money maw” in Chinese because of its value.<sup>46</sup> Fishermen in pursuit of the endangered totoaba in the Gulf use nets that indiscriminately capture other species including the vaquita, resulting in a dramatic die-off of that population.<sup>47</sup> In 1997, there were 567 individual vaquitas in the Gulf of California. In 2015, there were 59. Today, there are fewer than 30 left.<sup>48</sup>

As both populations of endangered species edge closer to extinction, it has become apparent that the totoaba trade is being orchestrated by organized criminal networks that pay local fishermen for the maw, smuggle it across the border into the United States and then to Asia, typically from San Francisco.<sup>49</sup> A Mexican Army major explained the nature of organized crime involvement in the trade:

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<sup>44</sup> Christopher Joyce, “Chinese Taste For Fish Bladder Threatens Rare Porpoise In Mexico,” *NPR*, recorded February 9, 2016,

<http://www.npr.org/sections/goatsandsoda/2016/02/09/466185043/chinese-taste-for-fish-bladder-threatens-tiny-porpoise-in-mexico>.

<sup>45</sup> Emily Kat Gómez Ramsey, *Pesca Ilegal Equivale Al 60% De La Producción Nacional En México* (Mexico City: Animal Político, May 24, 2013), <http://www.animalpolitico.com/2013/05/pesca-ilegal-equivale-al-60-de-la-produccion-nacional-reportada-en-mexico/>.

<sup>46</sup> Shreya Dasgupta, “Aquatic Cocaine’: Illegal Trade in Swim Bladders of Rare Fish Puts World’s Rarest Porpoise at Risk of Extinction,” *Mongabay*, January 12, 2016, <https://news.mongabay.com/2016/01/aquatic-cocaine-illegal-trade-in-swim-bladders-of-rare-fish-puts-worlds-rarest-porpoise-at-risk-of-extinction/>.

<sup>47</sup> *Hooked: How Demand for a Protected Fish Lined the Pockets of Mexican Cartels & Sunk the Future of an Endangered Porpoise Species* (Washington, D.C.: C4ADS, August 2017), <https://static1.squarespace.com/static/566ef8b4d8af107232d5358a/t/59c01106f4ca3a44430588c/1505759529205/Hooked.pdf>.

<sup>48</sup> Henry Nicholls, “Last-ditch Attempt to save World’s Most Endangered Porpoise Gets Go-ahead,” *Nature News* (April 07, 2017), <http://www.nature.com/news/last-ditch-attempt-to-save-world-s-most-endangered-porpoise-gets-go-ahead-1.21791>.

<sup>49</sup> Joyce, “Chinese Taste for Fish Bladder.”

Traffickers entered the business forcefully, applying their organizational structures and their corrupting influence. Organized crime has established networks, routes, contacts, points of sale, and *padrinos*, or sponsors, in official institutions. What was once used to traffic drugs was implemented for the totoaba.<sup>50</sup>

This would appear to mirror the C4ADS model of how organized crime networks in Africa and Asia traffic rhino horn and ivory. This makes even more sense when one considers how, like rhino horn and ivory, maw is of significantly high value pound-for-pound. Additionally, because the market for the fish bladder is across the Pacific, the totoaba is a prime example of a wildlife product that is likely smuggled by networks with “a very high level of vertical integration.”<sup>51</sup>

Much like the wider illicit wildlife trade in Mexico, details regarding the exact nature of the involvement of organized criminal groups in the trade are hard to come by, at least publicly; but those working on the front lines of this battle point to several indicators. First and foremost, an examination of recent court cases related to the totoaba trade in both the U.S. and Mexico indicates the presence of multiple sophisticated smuggling networks that specialize in transporting dried totoaba maw from the Gulf of California into California.<sup>52</sup> Additionally, environmentalists point to a recent surge in totoaba fishing that has resulted in the steep decline of the vaquita population in the last several years, blaming organized crime for increasing payments to local fishermen.<sup>53</sup> Juan Carlos Cantú states:

Mexican authorities have said that organized crime became involved [in the totoaba trade] and is now controlling capture, transport and export. Fishermen are now armed with automatic assault rifles and there have been several cases of violent confrontations. In the last one, a fisherman and a policeman shot each other to death.<sup>54</sup>

Beyond these indications, however, much remains uncertain. For instance, while some point to major Mexican cartels as the chief players in the totoaba trade, others blame the Gulf of California’s Asian communities. Mexican officials have publicly stated that Chinese mafias operating in Mexicali and Tijuana are behind much of the wildlife trafficking in the region, particularly of the totoaba and bighorn sheep.<sup>55</sup> Certainly, as with the C4ADS model, it could very well be that Chinese and other Asian criminal syndicates are the

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<sup>50</sup> Lucy Pasha-Robinson, “China’s Demand for Rare \$50,000 ‘Aquatic Cocaine’ Fish Bladder Pushing Species to Extinction,” *The Independent*, September 20, 2016, <http://www.independent.co.uk/news/world/americas/china-totoaba-fish-bladder-trade-aquatic-cocaine-money-maw-endangered-species-report-a7317256.html>.

<sup>51</sup> Varun, Ewing, and Miller, *Out of Africa*, 28.

<sup>52</sup> Tony Perry, “Convicted Smuggler of Prized Fish Bladders Gets 1-year Prison Term,” *Los Angeles Times*, August 12, 2014, <http://www.latimes.com/local/lanow/la-me-ln-fish-bladders-smuggling-20140812-story.html>.

<sup>53</sup> Elisabeth Malkin, “The Vaquita, the World’s Smallest Porpoise, Slips Closer to Extinction,” *The New York Times*, March 14, 2016, <https://www.nytimes.com/2016/05/15/world/americas/the-vaquita-the-worlds-smallest-porpoise-slips-closer-to-extinction.html>.

<sup>54</sup> Cantú, interview with author.

<sup>55</sup> Hugo Ruvalcaba, “Asian Mafias in Baja California,” *Southern Pulse* via InSight Crime, August 20, 2013, <http://www.insightcrime.org/news-analysis/asian-mafia-in-mexico>.



primary forces moving totoaba to market in their countries of origin. More evidence, particularly in the form of U.S. federal prosecutions, may shed more light on this in the near future.

## Implications and Policy Recommendations

An increasing amount of evidence, particularly the size and volume of seizures; methods of packaging, transport, and distribution; and the level of sophisticated planning needed to move product from source countries to markets as far away as Hong Kong, strongly suggests that transnational organized crime groups control the illicit wildlife trade in Mexico.<sup>56</sup> According to Defenders of Wildlife, 1,952—or 48.1 percent—of the illicit wildlife shipments from Latin America seized by U.S. authorities from 2003 to 2013 originated in Mexico.<sup>57</sup> By all indications, it would seem that this activity is generating large profits for the players involved, though certainly not on the same scale as narcotics. Of course, as pointed out by Nathan P. Jones, the agencies responsible for investigating and prosecuting wildlife traffickers have an incentive to portray this crime as a serious threat.<sup>58</sup> While this is worth bearing in mind, it is also clear that “eco trafficking,” and wildlife trafficking in particular, is generating massive revenue for those involved. For instance, in September and October 2017, 14 shipments of frozen octopus valued at \$40 million were stolen in the state of Yucatán.<sup>59</sup> In fact, there are indicators that what we know about the illegal wildlife trade is merely “the tip of the iceberg,” according to Mark Jones of Born Free Foundation. He estimates that seizures of illegal wildlife products comprise, at most, 10 to 15 percent of the total trade.<sup>60</sup>

The case of the totoaba and the fate of the vaquita are prime examples of the environmental impact of this crime. Without the level of sophistication that organized criminal networks bring to the trade in animals and related parts, it is doubtful that consumers in places like Hong Kong would see large quantities of “golden coin maw.” This would mean fewer trawlers would have the incentive to scour the vaquita’s waters with gillnets; should this happen, it would almost certainly prevent this species from vanishing in the next year, as is expected. This trade bodes ill for biodiversity across Mexico, Latin America, and the entire planet.

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<sup>56</sup> Cantú, interview with the author; and *Hooked*, 7.

<sup>57</sup> Alejandra Goyenechea and Rosa A. Indenbaum, *Combating Wildlife Trafficking from Latin America to the United States: The Illegal Trade from Mexico, the Caribbean, Central America and South America and What We Can do to Address It* (Washington, D.C.: Defenders of Wildlife, 2015), <http://www.defenders.org/sites/default/files/publications/combating-wildlife-trafficking-from-latin-america-to-the-united-states-and-what-we-can-do-to-address-it.pdf>.

<sup>58</sup> Jones, interview with author.

<sup>59</sup> Parker Asmann, “Tentacles of Organized Crime in Mexico Extend to Octopus Theft,” *Insight Crime*, October 30, 2017, <https://www.insightcrime.org/news/brief/tentacles-mexico-organized-crime-extend-octopus-theft/>.

<sup>60</sup> Ruiz, “Europe, a Silent Hub of Illegal Wildlife Trade.”

Criminals are reaping massive rewards in the short term and, in so doing, stealing much more than exotic animals. Rare species like the vaquita can attract tourists, generating revenue that local communities can use to improve infrastructure, education, and other public goods. Instead, this potential source of income is taken by criminal syndicates that hide their money away in offshore accounts and, in some cases, invest in extremist groups across the world.<sup>61</sup> In an article in *The Economist* on how to dissuade South Sudanese warlords from plundering the country, George Clooney and John Prendergast advocate for policies that could be applied to the individuals and organizations responsible for wildlife trafficking in Mexico:

A more effective approach requires going after the ill-gotten assets of warlords and their foreign facilitators, including businesses and arms dealers, because that is where they are most vulnerable. Experience from efforts in countering terrorism, nuclear proliferation and organised crime is instructive. The lessons include combining measures against money laundering with targeted asset freezes on war leaders and their accomplices. All this requires robust enforcement by banks. In the most successful cases, targeted officials are locked out from the financial system, creating real international leverage.<sup>62</sup>

There are several more options that policymakers could pursue to address the problem. On the poaching end, policymakers have to ask how locals can be prevented from seeking short-term financial rewards by illegally harvesting exotic species. The reality on the ground for a fisherman in Baja California is different than that of an environmentalist in the United States. Policymakers can borrow from successful models in Africa; in fact, one non-profit organization in particular—African Parks—has been noted for its results across the continent.

African Parks assumes complete control over government-held public lands for long periods of time, typically 15–20 years. They manage everything, from anti-poaching efforts to community outreach. Whereas some NGOs focus all their efforts on saving individual species, African Parks establishes a close working relationship with surrounding communities that would otherwise be supplying poachers. They coordinate infrastructure projects, create jobs for locals within the park, and educate neighboring communities about the potential benefits of contributing to the park's success. They have had considerable success in turning around the parks' fortunes. At one park in Malawi, for instance, African Parks created over 130 jobs for locals, increased wildlife populations (including the elephant population), and generated \$400,000 in profits for the community.<sup>63</sup>

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<sup>61</sup> Hubbard, interview with author; and Christopher Dowd, U.S. Fish and Wildlife Service (ret.), in a telephone interview with the author, April 11, 2017.

<sup>62</sup> George Clooney and John Prendergast, "Stop the Cash, Stop the Conflict," *The Economist*, <http://www.theworldin.com/article/12638/stop-cash-stop-conflict>.

<sup>63</sup> Klara Glowczewska, "How a Pioneering Conservation Outfit Is Helping to Save Africa's Wild Places," *Town & Country*, January 6, 2017, <http://www.townandcountrymag.com/society/news/a9153/african-parks-conservation-work/>.

Policymakers could adapt this type of long-term, sustainable approach for parks around the world, including in Mexico. Perhaps if the Mexican government, in coordination with international conservationists, worked to provide fishermen in Baja California with better options for employment, it might prevent the destruction of the vaquita's habitat. This takes more than just one-sided approaches such as last-minute trawling bans, and requires close coordination with local governments and community organizations.

Of course, a community outreach model would only be able to work in conjunction with government efforts to detect, deter, and dismantle organized criminal networks that finance the trade in endangered animals. First and foremost, this issue needs to be treated as a crime of the highest level. President Barack Obama's signing of the Eliminate, Neutralize, and Disrupt Wildlife Trafficking Act of 2016 is an important milestone in the effort to have this crime treated seriously, but it requires follow-through. Conversations with law enforcement officers involved in the fight against this trade yielded very clear recommendations. Law enforcement agencies like the USFWS require more funding and personnel to adequately screen shipments arriving at U.S. ports.<sup>64</sup> In addition to intercepting more of these shipments, increased funding would also improve government efforts at intelligence gathering.

Governments, NGOs, and the general public require more information about the criminal networks driving this trade. On the government side, agencies must work toward improved coordination with their international partners. Special Agent Hubbard noted that the USFWS would be stationing an agent in Mexico City sometime in 2017 to work as a liaison with the Mexican government on this issue and provide capacity-building services.

Cooperation at the international level and public education are also good places to start in reducing demand, particularly in Asia. Governments are learning; in 2016, China announced that it would be shutting down its legal market for ivory. The U.S. has enacted similar laws.<sup>65</sup> While these are positive steps forward, they must be paired with increased enforcement.

In Mexico specifically, this means ending criminal impunity for wildlife crimes. Such cases are simply not pursued with the same vigor as drug-related crimes. It is rare for wildlife crimes to be prosecuted at all, and a simple walk through Mexico City's Sonora market reveals that this trade is booming, with little incentive to stop.<sup>66</sup> Perhaps above all else, increasing the penalties of exotic wildlife trafficking and treating this crime with the same urgency as other trafficking crimes—those involving narcotics, humans, and arms, for instance—are most crucial.

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<sup>64</sup> Goyenechea and Indenbaum, *Combating Wildlife Trafficking*.

<sup>65</sup> Rachael Bale, "World's Biggest Ivory Market Shutting Down—What It Means," *National Geographic*, April 18, 2017, <http://news.nationalgeographic.com/2017/03/wildlife-watch-china-elephant-ivory-trafficking-ban/>.

<sup>66</sup> "Illegal Wildlife Trafficking in Mexico, a Growing Industry," *The Yucatan Times*, April 21, 2015, <http://www.theyucatanimes.com/2015/04/illegal-wildlife-trafficking-in-mexico-a-growing-industry/>.

But at a moment when nationalism seems to be on the rise across the globe, how can the international community continue to address transnational problems such as wildlife trafficking? Now that President Donald Trump has withdrawn the United States from the Paris Climate Accords, and as the U.K. withdraws from the European Union, can the problem of illicit wildlife trafficking across international borders be addressed? These are questions yet to be answered, but the fight against this global crime must continue. Recent developments offer some hope. TRAFFIC, the international wildlife trade-monitoring network, reports that through its cooperation with large tech companies like China's Baidu, it has contributed to a steady decline in the number of online ads for illicitly sourced wildlife products.<sup>67</sup> Similar cooperative efforts across the private sector could prove effective. Dialogue regarding the illicit wildlife trade between governments continues as well. During the 2017 U.S.-Africa Leaders Summit, the president of Gabon offered a particularly insightful idea: instead of simply addressing the issue from a security perspective, governments around the world should strive to reduce demand for the products, or "kill the market, save the animals."<sup>68</sup> Perhaps this sort of cooperative conversation will continue to encourage dynamic approaches to address the illicit wildlife trade. The illegal wildlife trade was even mentioned in Donald Trump's executive order on transnational crime, so the issue may not be placed on the back burner after all.<sup>69</sup>

## Areas for Further Study

There is still a lot to be learned about the inner workings of this trade, especially as it relates to the nature and degree of control exercised by organized crime networks. For example, no one is really sure about the exact extent of the trade. As pointed out by Nathan Jones, one can only glean so much intelligence from seizures. Only a fraction of wildlife shipments are detected, and it is probably safe to assume that many of these are carried out by less sophisticated firms involved in the business. Jones states that for a time, the Juárez Cartel was smuggling large quantities of narcotics across the border before any of their shipments were intercepted, so much so that many law enforcement agents were skeptical of the effectiveness of the organization. After all, in a market dominated by sophisticated criminal networks with vast resources, one can assume that there are many shipments passing through successfully.<sup>70</sup> One methodological tool that might aid in establishing some understanding of the function of these networks is social network analysis (SNA). A detailed study of recent federal indictments against Mexican, Asian, and Asian-American wildlife trafficking rings using SNA techniques might shed more light on the inner

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<sup>67</sup> "New Study Documents Persistent Wildlife Trafficking on E-commerce Websites and Social Media Groups In China," TRAFFIC, May 22, 2017, <http://www.traffic.org/home/2017/5/22/new-study-documents-persistent-wildlife-trafficking-on-e-com.html>.

<sup>68</sup> Zach Goldhammer, "Can You Wage a War on Poaching?" *The Atlantic*, August 7, 2014, <https://www.theatlantic.com/international/archive/2014/08/can-you-wage-a-war-on-poaching/375760/>.

<sup>69</sup> Tina Deines, "Illegal Wildlife Trade Booming Across U.S.-Mexico Border," *National Geographic*, May 25, 2017, <http://news.nationalgeographic.com/2017/03/wildlife-watch-wildlife-trafficking-reptiles-mexico-united-states/>.

<sup>70</sup> Jones, interview with author.

workings of the trade and provide analysts with a better understanding of the vulnerabilities of criminal networks in the illegal wildlife business.

Perhaps most importantly, however, is the need to address the forces driving demand. There seem to be some societal factors that encourage the display of wealth through possession of animal products, but there is also a deep-seated, ancient set of cultural beliefs in parts of Asia that compel consumers to participate in this trade. Sociological and anthropological studies of specific markets, such as consumers in Hong Kong, might help provide policymakers with a more nuanced understanding of the root causes behind this trade.

## **Acknowledgements**

I would like to thank Tony Payan of the Baker Institute for Public Policy for his guidance and encouragement throughout this process, especially in discovering this topic. Special agents Christopher Dowd (Ret.) and David Hubbard of the U.S. Fish and Wildlife Service, Nate Jones of Sam Houston State University, and Juan Carlos Cantú of Defenders of Wildlife were very generous in donating their time to help me with my research. I also wish to thank my peers in the Rice Master of Global Affairs Class of 2017 for their support throughout the program.