

# Jaguar Hunting and Trafficking in Mesoamerica

Recent Observations



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## With Input from

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Cover: Jaguar (*Panthera onca*). Credit: Jayro Bardales, Honduras



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## Executive Summary

Prior to 1975, a thriving international market in jaguar hides for the fur trade drove hunters into remote reaches of Mesoamerica and the Amazon, significantly depleting jaguar populations and putting the species at risk. In 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) entered into force, prohibiting commercial trade and transport of jaguars and parts across international boundaries. CITES successfully shut down the fur trade and associated poaching, and jaguar populations began to rebound. Since that point, the main threats to the jaguar have been the destruction and degradation of jaguar habitat, reduction of natural prey through over-hunting, and direct killing of jaguars due to conflicts with ranchers. These factors have continued to place pressure on jaguar populations, but have been countered by the establishment of protected and managed areas using a mix of law enforcement and incentives to accomplish conservation goals. Where well executed, those efforts have led to jaguar population stability, and population increases in some areas. However, in 2010 evidence emerged that trade in jaguar parts in Latin America was resuming. First were reports of jaguars killed in the Guianas presumably to satisfy Asian demand of parts for jewelry, meat, and medicinal purposes. In 2014 in Bolivia, more than 750 canine teeth destined for China were intercepted, indicating a potential bold market for jaguar parts.

In order to ascertain whether such an emerging trade existed in Mesoamerica, WCS contacted experts and authorities to solicit information on jaguar poaching and trafficking from across the region, from Mexico through Panama, and summarized 24 responses. For each country, we also collated relevant legislation, information on how to report a potential violation to authorities, examples of interceptions and legal cases, and management recommendations. Although the data presented have the inherent limitation of being second hand reports and observations rather than a focused investigation, this effort represents a significant step forward in our understanding of this situation in Mesoamerica.

### Conclusions:

- **Jaguar trafficking to Asia may be increasing:** In four of the seven countries (Belize, Honduras, Costa Rica, and Panama), there is concern that a formal national and international trade may be emerging, with anecdotal and largely unsubstantiated claims of potential links to Chinese/Asian populations and illegal markets for jaguar parts.
- **Most trade appears to be local:** In all seven countries, respondents reported that local hunting and ranching were the current main drivers of jaguar poaching, largely driven by conflicts with ranchers and farmers due to perceived risk of livestock predation.
- **Jaguar/livestock conflict may enable trade:** Retaliatory jaguar killing may create informal local markets for jaguar parts that can set the stage for emergence of formal international markets, incentivizing increased retaliatory killings and targeted jaguar poaching.
- **Laws, monitoring and enforcement need strengthening:** Laws to protect jaguars and wildlife have significant gaps, and are often not effectively implemented or enforced.

### Recommendations:

1. **Bring more attention to the devastating potentials of trade,** both with national authorities and the general public.



2. **Gather more information to understand the situation**, including targeted investigations on poaching methods, online and local markets, networks, and forensic examination of dead and confiscated jaguars.
3. **Increase enforcement and the successful prosecution of laws**, through increased public investment and strengthening capacities of authorities along the enforcement chain, and development of effective communication mechanisms between enforcement authorities.
4. **Work with ranchers and farmers to reduce conflicts with jaguars**, through promotion of collaborative mechanisms to reduce conflicts and avoid killing of animals due to livestock predation.



Figure 1: Jaguar teeth: Melvin Merida, Skin: Sandra H. Potosme, Live jaguar: Rony Garcia-Anleu

## Introduction

Since its entry into force in 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has listed the jaguar on its Appendix I, meaning that international commercial trade in jaguar parts or products is prohibited, and transport across international borders is only authorized under exceptional circumstances such as scientific research (CITES, 2013). All of the countries in Latin America and the Caribbean are CITES Parties, with the exception of Haiti. Mesoamerican countries joined CITES from 1975 (Costa Rica) to 1991 (Mexico). Prior to 1975, a thriving market for jaguar skins motivated hunters to penetrate far into forests seeking jaguars (Smith, 1976; Mares & Ojeda, 1984; Duarte & Rebelo, 1985; TRAFFIC, 1986a, b; Broad, 1988; Aranda 1991; Parra, 2009). In the time since the regulations of international trade in spotted cat hides were put in place through CITES and enforced, the primary threats to jaguars have been habitat loss, prey depletion, and human-jaguar conflict driven by domestic animal losses (e.g. cattle, pigs, dogs) (Ceballos et al. 2007; Paviolo et al. 2008; Ayala & Wallace, 2010; De la Torre et al. 2017). WCS and other organizations work to address those threats through a combination of conservation tools adapted to individual sites. In many cases, these interventions have resulted in population stability and even recovery.

However, a recently renewed illegal trade in jaguar parts has been reported across some of the jaguar's range (Jemio, 2007; Nuñez & Aliaga-Rossel, 2017), which could jeopardize the conservation advances of the past four decades. If trade begins anew, it could stimulate hunting expeditions for jaguars, reversing the

gains achieved, and enable the activities of wildlife trafficking syndicates. The plight that Asian tiger populations have suffered due to markets for their parts (Karanth et al. 2013; Karanth, 2016), illustrates the potential of renewed trade in jaguar parts to drive population declines and local extinctions. Because of the potency of that threat, it is essential that we improve our knowledge about where, when, and how this threat may be re-emerging, and hence how it can be addressed.

Concerns about potential trade in jaguar parts have risen range wide. In recent years, scattered reports across Latin America suggest that commercially-driven poaching of jaguars has increased in a number of countries, with evidence that middlemen are buying jaguar products for export to China. Concrete examples have come from Bolivia and Suriname. In Bolivia, from August 2014 to February 2015, authorities intercepted and confiscated eight mail shipments with destinations in China (Choque, 2015). The total of 186 canines implied the killing of at least 47 jaguars. Seven of the eight individuals sending these parcels were Chinese citizens residing in Bolivia (Nuñez and Aliaga-Rossel, 2017). In February 2018, another 185 canines were intercepted in Santa Cruz Bolivia<sup>1</sup>. In Suriname, reports emerged as early as 2010 of jaguar being pursued to satisfy Chinese demand for jewelry, meat, and medicinal uses (Kernam, 2010) with even more widespread hunting and consumption for meat, medicinal paste, teeth and claws for jewelry reported in recent years<sup>2</sup>. Given the general lack of information and intelligence on wildlife trafficking across the jaguar's range, it is plausible that such well-documented examples represent a very small portion of the overall trade – both in terms of total volume and geographic extent.

<sup>1</sup> <http://www.eldeber.com.bo/santacruz/Recuperan-185-colmillos-de-jaguar-y-aprehenden-a-2-mujeres-y-un-hombre-20180223-9141.html>, <http://www.eldeber.com.bo/bolivia/Confiscan-piezas--de-animales--valuadas-en-casi-1-millon-de-dolares-20180224-0003.html>

<sup>2</sup> <https://www.nationalgeographic.com/animals/2018/09/wildlife-watch-news-jaguar-poaching-trafficking-suriname/>



In Mesoamerica there have been no comprehensive surveys of the extent of jaguar hunting or trade. However, piecemeal and anecdotal evidence gave us cause for concern that Mesoamerica might be experiencing a rapidly emerging trade in jaguar parts similar to that of some countries in South America. In order to ascertain whether such an emerging trade existed in Mesoamerica, WCS contacted experts and authorities from across the region to solicit information on jaguar poaching and trafficking. In the process, we engaged a potential network in the region that might contribute to ongoing vigilance and information sharing, thereby enhancing our ability to detect emerging threats and inform authorities to help prevent the illegal hunting of jaguars.

This report summarizes information that we received from 24 jaguar experts in Mesoamerica who were kind enough to respond to our questionnaire and contribute to this effort. The editors have made their best effort to respect and reflect the content based on the responses.

Admittedly, this effort represents a first attempt at collating existing knowledge about jaguar hunting and trade within Mesoamerica's jaguar conservation community, and by no means provides a thorough or comprehensive treatise of the full extent of jaguar trade. Our hope is that this first effort to collect current information on jaguar trafficking in Mesoamerica will serve as a basis to elevate awareness, stimulate thorough investigations, and increase political will so the collective conservation community can act to curb jaguar trafficking.

## Methods

We developed a questionnaire in Spanish that focused on the issues that we considered critical to understanding jaguar poaching and trafficking in the region, such as reported/documentated cases, seizures, trade

hotspots, and actors involved in the trade (Annex D). This questionnaire was sent to jaguar experts in governmental and non-governmental institutions in the seven Mesoamerican countries, requesting their input based on their experience and additional sources of information that could be relevant. The results reported here are limited to the information respondents voluntarily provided to these questionnaires.

Our questionnaires were directed to biologists, specialists and government actors linked to jaguar research, management and conservation. The answers received were opinions, perceptions and information obtained by these sources who are familiar with the species in the region and that we consider to be reliable. The information on poaching, causes of death, and prices was provided by these contributors based on what they have learned working in the region and in the field, but are not data collected as part of a systematic jaguar trafficking investigation.



Figure 2: Jaguar Skin. Credit: WCS

In addition to the expert responses on the status of jaguar trade in Mesoamerica, we have tried to provide contextual information based on recent trafficking reports and web research, as well as recommendations provided by interviewees and ourselves on what is needed to improve efforts to address jaguar poaching and trafficking issues in the region. Annex A provides a list of relevant legal instruments protecting jaguars in each Mesoamerican country. Annex B provides information about where and how to report illegal activities in each country (e.g., jaguar poaching, trafficking). Annex C provides links to examples of jaguar specimen seizures in Mesoamerica.

## Results

A total of 44 jaguar experts were contacted, 24 of whom responded to our questionnaires, for a 54% response rate. Annex E includes names and affiliation of participants in the survey, and Annex F presents the detailed information received from each country.

### *Status of Jaguar Trade in Mesoamerica*

Table 1 provides a summary of survey responses and additional information regarding the status of jaguar trade in each Mesoamerican country.

In all seven countries, respondents reported that local hunting and ranching were perceived as the current main drivers of jaguar poaching. In every country, respondents reported that conflicts with ranchers and farmers due to livestock predation is likely the main reason for killings, and that trade in jaguar parts appears to be mostly opportunistic.

However, in three of the seven countries (Belize, Costa Rica, and Panama), respondents

reported concern that a formal international trade may be emerging, with anecdotal but largely unsubstantiated claims of potential links to Chinese/Asian illegal markets for jaguar parts. In Belize, local people report a perceived recent increase in jaguar hunting for meat and teeth, which they attribute to demand by Taiwanese and Chinese citizens and tourists. In Costa Rica, unsubstantiated rumors exist that Chinese immigrants are buying jaguar parts (bones, teeth) for medicinal purposes. In Panama, information provided indicates that Chinese foreigners are requesting jaguar parts - specifically bones. In addition to the questionnaires, we have heard recent rumors that individuals of Chinese origin are requesting jaguar parts in the Honduran Moskitia.

Reported prices for jaguar parts varied widely, ranging from US\$5-65 for canines, US\$15-500 for skins, and US\$80-150 for skulls, with additional occasional sales of paws and claws.



Figure 3: Jaguar Canines. Credit: WCS.



**Table 1. Responses to questionnaire regarding the status of jaguar trade per country**

Country	# Respondents	National status of jaguar	Hunting and trade	People involved	Prices (in USD)
<b>Mexico</b>	4	Critically endangered	Jaguars parts come from animals killed because of livestock conflict	Landowners, ranchers, sometimes hunters are hired.	Canine: 15-25 Skin: 210-260 Claws: 2.6 Skull: 80-100
<b>Belize</b>	1	Near threatened	Jaguar hunting is to control problem animals. There are signs that an Asian market is increasing	Local hunters and ranchers	Canine: 100
<b>Guatemala</b>	3	Endangered (Category II)	Jaguars parts come from animals killed because of livestock conflict	Ranchers, hunters hired to kill jaguars. Buyers are tourists	Canine: 60-65 Skin: 500 Skull: 150
<b>Honduras</b>	2	Nearly threatened (following IUCNs categorization) but not of national concern	Jaguars are killed when they attack cattle, the parts come from these animals.	Local hunters and ranchers	Canine: 5 Skin 15 Cubs: 100
<b>Nicaragua</b>	1	Critically endangered	Jaguars are killed during the advance of the agricultural frontier as predator control	Local people and farm owners	Canine: 5 – 20 Skin: 45
<b>Costa Rica</b>	7	Critically endangered	Jaguars are killed because of livestock predation, sometimes trophy hunting. Asian market is increasing.	Farmers and ranchers, sometimes professional hunters	One case of a jaguar paw traded for a \$600 calf
<b>Panama</b>	4	Endangered	Jaguar poaching primarily due to control of animals killing cattle. There are signs that an Asian market is increasing.	Peasants, ranchers or indigenous people	Canine: 50-100 Skin: 75-200 Remuneration for killing jaguar: 300

### *Respondents' Recommendations for Addressing Jaguar Trade in Mesoamerica*

Respondents' recommendations generally revolved around four themes: 1. Increasing outreach and recognition given to jaguar trade, 2. Increasing investigation and understanding of the jaguar trade, 3. Improving enforcement and prosecution, and 4. Improving coexistence between jaguars and cattle.

Table 2 details respondents' recommendations with regard to increasing outreach and raising the profile of jaguar trade. These include efforts to educate and change attitudes of the general public in Mesoamerica, including potential consumers of jaguar parts and individuals that may be involved in trade themselves, as well as raising the profile of the issue with politicians and authorities so that they might take action to address illegal trade.

**Table 2. Respondents' recommendations regarding raising the profile of trade**

<b>Country</b>	<b>Recommendation to raise the profile of trade</b>
<b>Mexico</b>	<ul style="list-style-type: none"> <li>• Increase dissemination efforts about wildlife poaching/trafficking related laws.</li> <li>• Ensure that consequences of illegal hunting and trafficking of specimens from wild origin are extremely explicit and clear in the law, and conduct a vigorous campaign to inform people.</li> </ul>
<b>Belize</b>	<ul style="list-style-type: none"> <li>• Develop and implement an outreach campaign to inform the public about jaguar threats including trafficking</li> </ul>
<b>Guatemala</b>	<ul style="list-style-type: none"> <li>• Conduct outreach efforts to inform on the status of jaguars and to encourage the reporting of illegal activities by civil society</li> </ul>
<b>Honduras</b>	<ul style="list-style-type: none"> <li>• Environmental and legal education at sites where jaguars are being illegally hunted</li> </ul>
<b>Nicaragua</b>	<ul style="list-style-type: none"> <li>• Implement outreach campaigns in key tourist sites to deter potential buyers of entering the illegal trade of jaguar parts</li> <li>• Share information (including this report) with Nicaraguan authorities in charge of hunting control and wildlife trade to elevate awareness of the potential threats and the tools available to address them.</li> </ul>
<b>Panama</b>	<ul style="list-style-type: none"> <li>• Implement outreach efforts (including social media) to inform the public on the threat of illegal trade to wildlife, penalties and risks of committing wildlife crimes</li> <li>• Develop and implement environmental education plans at different levels which integrate the threat of illegal trade to wildlife with an emphasis on jaguars</li> <li>• Raise the profile of wildlife crimes at the ministerial level to increase political will and commitment</li> </ul>

Table 3 details respondents' recommendations with regard to better understanding jaguar trade. Responses reflect a need for further investigation and intelligence gathering to better understand markets for jaguar products and sources of demand, as well as trade pathways and networks. Responses also reflect a need for better information management and sharing regarding crimes and seizures to inform management and enforcement actions.

**Table 3. Respondents' recommendations regarding better understanding jaguar trade**

<b>Country</b>	<b>Recommendation for Understanding Trade</b>
<b>Mexico</b>	<ul style="list-style-type: none"> <li>• Improve databases on poaching and trafficking cases, illegal trade, crimes and seizures</li> </ul>
<b>Belize</b>	<ul style="list-style-type: none"> <li>• Identify the sources of demand for jaguar parts.</li> <li>• Investigate the relationship between the tourism industry and jaguar trafficking</li> <li>• Implement studies in the Cayo District which is suspected to be a source area for potential wildlife trafficking.</li> </ul>
<b>Guatemala</b>	<ul style="list-style-type: none"> <li>• Improve the management of seizure and rescue information through an accessible database for inquiries by personnel from key management/enforcement institutions (CONAP, NGOs).</li> <li>• Increase biological monitoring of jaguar populations</li> </ul>
<b>Honduras</b>	<ul style="list-style-type: none"> <li>• Clearly define the level of threat of the trade in jaguar parts in Honduras</li> </ul>
<b>Nicaragua</b>	<ul style="list-style-type: none"> <li>• Improve mechanisms to document and analyze wildlife crimes to inform management and enforcement actions</li> <li>• Undertake market surveys with a focus in jaguar parts as ornaments in more heavily frequented Caribbean tourism destinations and within public crafts and jewelry markets.</li> </ul>
<b>Costa Rica</b>	<ul style="list-style-type: none"> <li>• Implement investigation/Intelligence activities to identify and capture commercial hunters</li> </ul>

Table 4 (next page) details respondents' recommendations with regard to improving enforcement and prosecution of jaguar trade crimes. Responses focus on improving legislation, strengthening capacities of protected areas and wildlife managers, strengthening capacity for intelligence-gathering and traceability, and strengthening criminal prosecution and justice sectors.



**Table 4. Respondents' recommendations regarding enforcement and prosecution**

<b>Country</b>	<b>Recommendation for Enforcement and prosecution</b>
<b>Mexico</b>	<ul style="list-style-type: none"> <li>• Dedicate more financial and personnel resources, including training to strengthen institutions in charge of combating environmental crimes</li> <li>• Ratification by the Mexican Senate, on the use of video or photographs as evidence to process an offense or crime.</li> <li>• Increase penalties for traffickers of species in the Mexican “red list”</li> </ul>
<b>Belize</b>	<ul style="list-style-type: none"> <li>• Review and update the Wildlife Protection Act and train Forest Department personnel on the potential extent of jaguar trafficking in the country.</li> </ul>
<b>Guatemala</b>	<ul style="list-style-type: none"> <li>• Strengthen the capacities of managers of control posts and institutions responsible for wildlife protection, such as CONAP on both technical and operational fronts</li> <li>• Promote and support case follow up until sentencing to serve as a deterrent.</li> <li>• Provide training and strengthen capacities of the Division of Nature Protection (DIPRONA) of the National Civil Police, as well as the Police, Public Ministry and Judges on environmental crimes with particular focus on wildlife trafficking.</li> <li>• Train the judiciary (court personnel) on environmental crimes</li> </ul>
<b>Honduras</b>	<ul style="list-style-type: none"> <li>• Reinforce the institutional presence of enforcement authorities in isolated areas where people cohabit with the jaguar</li> <li>• Develop decrees/legislation to penalize the trafficking of species, with sufficient penalties to serve as deterrent for criminal activities to be committed</li> <li>• Improve communication and collaboration between judges and prosecutors for effective implementation of legal frameworks related to wildlife crimes.</li> </ul>
<b>Nicaragua</b>	<ul style="list-style-type: none"> <li>• Strengthen capacities of authorities on legal frameworks, specimen identification and enforcement protocols in case of poaching/illegal trade</li> </ul>
<b>Costa Rica</b>	<ul style="list-style-type: none"> <li>• Provide training and tools for enforcement and management authorities to allow for the traceability of wildlife products</li> <li>• Strengthen capacities and coordination along the enforcement chain, from field investigators to prosecutors and judges</li> <li>• Elevate border, airport and customs controls for possible illegal cases of jaguar parts trade.</li> <li>• Update and harmonize national legislation, action plans for jaguars, and implementation of wildlife laws since they are unevenly enforced across different sub-regions of the country.</li> </ul>
<b>Panama</b>	<ul style="list-style-type: none"> <li>• Train environmental prosecutors, police and environmental ministry personnel on counter wildlife trafficking.</li> </ul>

Table 5 details respondents' recommendations with regard to improving coexistence between jaguars and cattle. These generally focus on providing information and tools, and strengthening collaborative mechanisms between authorities and ranchers/farmers/local communities in order to reduce conflicts and avoid killing of animals due to livestock predation.

**Table 5. Respondents' recommendations regarding coexistence between jaguars and cattle**

Country	Recommendation for Coexistence
Mexico	<ul style="list-style-type: none"> <li>• Implement a technical support program for livestock management in order to reduce human-jaguar conflict and related poaching of jaguars and other carnivores.</li> <li>• Expand funding and access to cattle depredation insurance to the entire country, including isolated areas where it is currently not being applied.</li> </ul>
Guatemala	<ul style="list-style-type: none"> <li>• Investigate the status of jaguar parts trafficking/hunting as a result of livestock predation and black market in pets.</li> </ul>
Honduras	<ul style="list-style-type: none"> <li>• Promote livestock management to reduce conflicts with large felids</li> </ul>
Costa Rica	<ul style="list-style-type: none"> <li>• Promote people-jaguar coexistence plans and invest in conflict prevention as in the Conflict Response Unit with Felines of the Ministry of the Environment.</li> <li>• Empower local communities to perceive the benefits of coexisting with felines and thus be part of improved controls and anti-poaching efforts.</li> </ul>

## Conclusion

Despite the anecdotal nature of the expert-based information within this report, we believe it helps to provide an important perspective on the present situation of jaguar trade in Mesoamerica. The information points to four overarching conclusions:

### Jaguar trafficking to Asia may be increasing

- In four of the seven countries (Belize, Honduras, Costa Rica, and Panama), there is concern that a formal international trade may be emerging, with anecdotal and largely unsubstantiated claims of potential links to Chinese/Asian illegal markets for jaguar parts.
- Reports suggest that the Asia-related illegal markets may be both local and international, involving members of Chinese and Taiwanese communities within Central America, as well as foreigners seeking jaguar parts.
- There is significant risk that if jaguar trafficking syndicates become established, prices and poaching may increase, as reported for Belize, Panama, and Costa Rica.

### Most trade appears to be local

- Despite the perceived potential increase in international trade, currently most trade in jaguar parts in the Mesoamerican region appears to be local and occasional, and international trade in jaguar parts does not seem to currently be the main driver of jaguar mortality.
- In most areas, conflict with ranchers and farmers due to livestock predation is believed to be the main reason for killings, and trade in jaguar parts appears to be mostly opportunistic.

### Jaguar/livestock conflict may enable trade

- Retaliatory jaguar killing may create informal local markets for jaguar parts that can set the stage for emergence of formal international markets.
- Higher prices and increased demand on more formal markets may incentivize increased retaliatory killings and targeted jaguar poaching in a positive feedback spiral (Figure 1).
- Advances in human-jaguar/jaguar-livestock conflict reduction are taking place in most countries, but the positive impact of such projects on knowledge, attitudes, and practices is restricted to specific project areas and has not been mainstreamed into national policy or practice.
- Reducing the probability of conflict where humans and jaguars coexist will also help reduce the temptation to sell parts of dead jaguars, and prevent the aforementioned positive feedback cycle from being perpetuated.

### Laws, monitoring and enforcement need strengthening

- All countries have laws to protect jaguars and wildlife, but some of these have significant gaps, and they are very often not effectively implemented or enforced, particularly in the field.
- Given the lack of documented information on existing illegal trade of jaguar specimens, more intelligence and investigation is necessary to map and describe the scale, hotspots, networks, and methods of jaguar trade throughout the jaguar source, transit and destination countries.
- Serious enforcement efforts must undermine developing trafficking syndicates between Mesoamerica and Asia before they become more deeply embedded and pose serious threat to remaining jaguar populations.

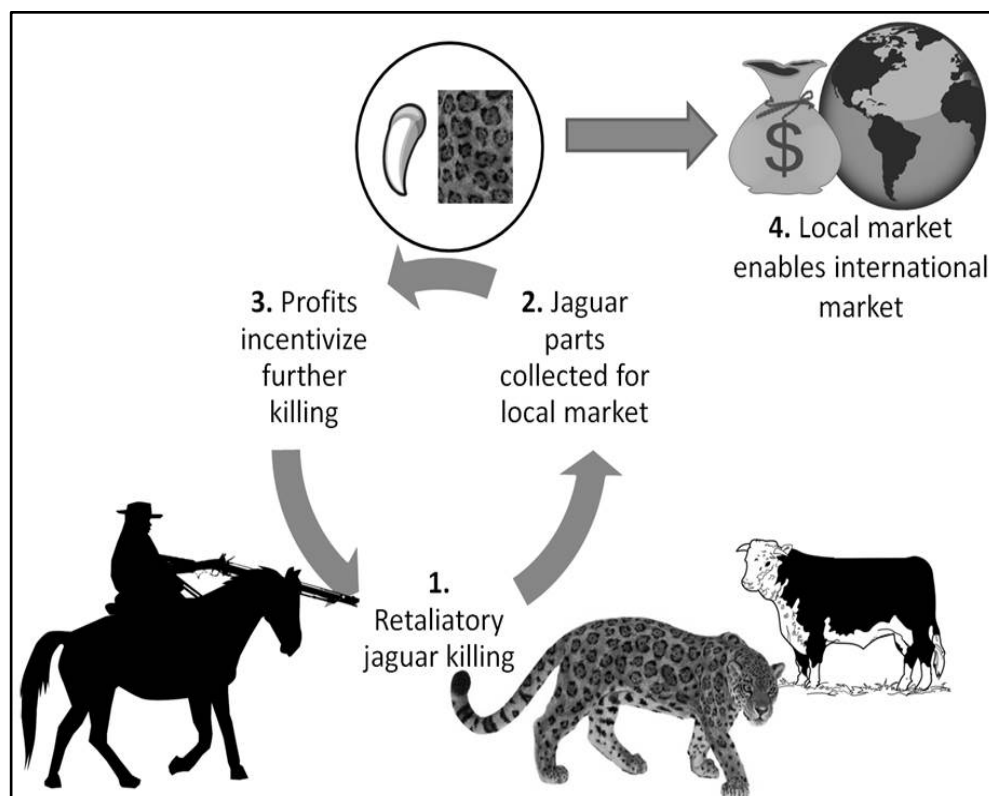


Figure 4: Hypothesized links between jaguar – livestock conflict and trade in jaguar parts



## Recommendations

### 1. Bring more attention to the devastating potentials of trade

- Raise the profile among national authorities at the highest level on the potential emerging threat of trade of jaguar parts aimed at Asian markets (local, national, regional, international) considering the significant increased Asian presence and trade/investments in the region, and the need to take proactive preventive actions to avoid a crisis such as that seen with tigers in Asia. Investigations and successful prosecutions will set important precedents.
- Develop innovative national communication/outreach campaigns including through social media to educate, inform and engage the public in efforts to counter wildlife trafficking with a particular focus on jaguar trafficking (including informing the public of the illegality and potential penalties) and to curb the appeal and eliminate the market for jaguar jewelry.

### 2. Gather more information to understand the situation

- Urge national authorities in each country to prioritize information gathering and careful archiving of all reports and apprehensions.
- Develop a regional georeferenced database on jaguar poaching/illegal trade cases with information that can help authorities in investigations, identification of trade routes and actors, and trend analyses.
- Comprehensively gather and systematize all publicly available information on jaguar trade through proactive monitoring of the web and social media, including offers of sale online, as well as documented jaguar trade seizure incidents resulting from a variety of intelligence frameworks (web and social media, as well as more traditional police intelligence based on informants and criminal investigations).
- Use advanced analytical tools and methods to map and describe the scale, hotspots, networks, and methods of online jaguar trade throughout the jaguar source, transit and destination countries.
- Promote the collection of remains of dead jaguars with mysterious origins, and their preservation to the best circumstances allow, for the undertaking of forensic examination of the body to help determine natural or unnatural causes of death, to provide valuable information for both conservation and enforcement efforts affecting the species.

### 3. Increase enforcement and the successful prosecution of laws

- Update outdated or incomplete wildlife laws
- Increase public investment and strengthen the capacities of authorities along the enforcement chain (field personnel to prosecutors and judges) to counter wildlife trafficking with an emphasis on jaguars and other felines. This should include local actors in distribution areas where poaching takes place but also in key distribution and exit points (e.g. urban centers, seaports, airports, borders).
- Develop effective communication mechanisms between enforcement authorities in relevant agencies dealing with jaguar trafficking in Central America and authorities in key destination countries such as China to improve information/intelligence exchange and collaboration.

#### 4. Work with ranchers and farmers to reduce conflicts with jaguars

- Develop and strengthen collaborative mechanisms between authorities and stakeholders living in or close to jaguar distribution areas (e.g., ranchers, farmers, local communities) to reduce conflicts and avoid killing of animals due to livestock predation.
- Promote co-existence through outreach. Optimally, human-jaguar co-existence projects will measure costs/benefits in terms of livestock saved, uptake of techniques to reduce conflicts, and even though a challenging parameter to obtain, assess success in terms of jaguars not killed/jaguar deaths averted. Successful reductions in conflicts will potentially reduce the allure of opportunistic trade.

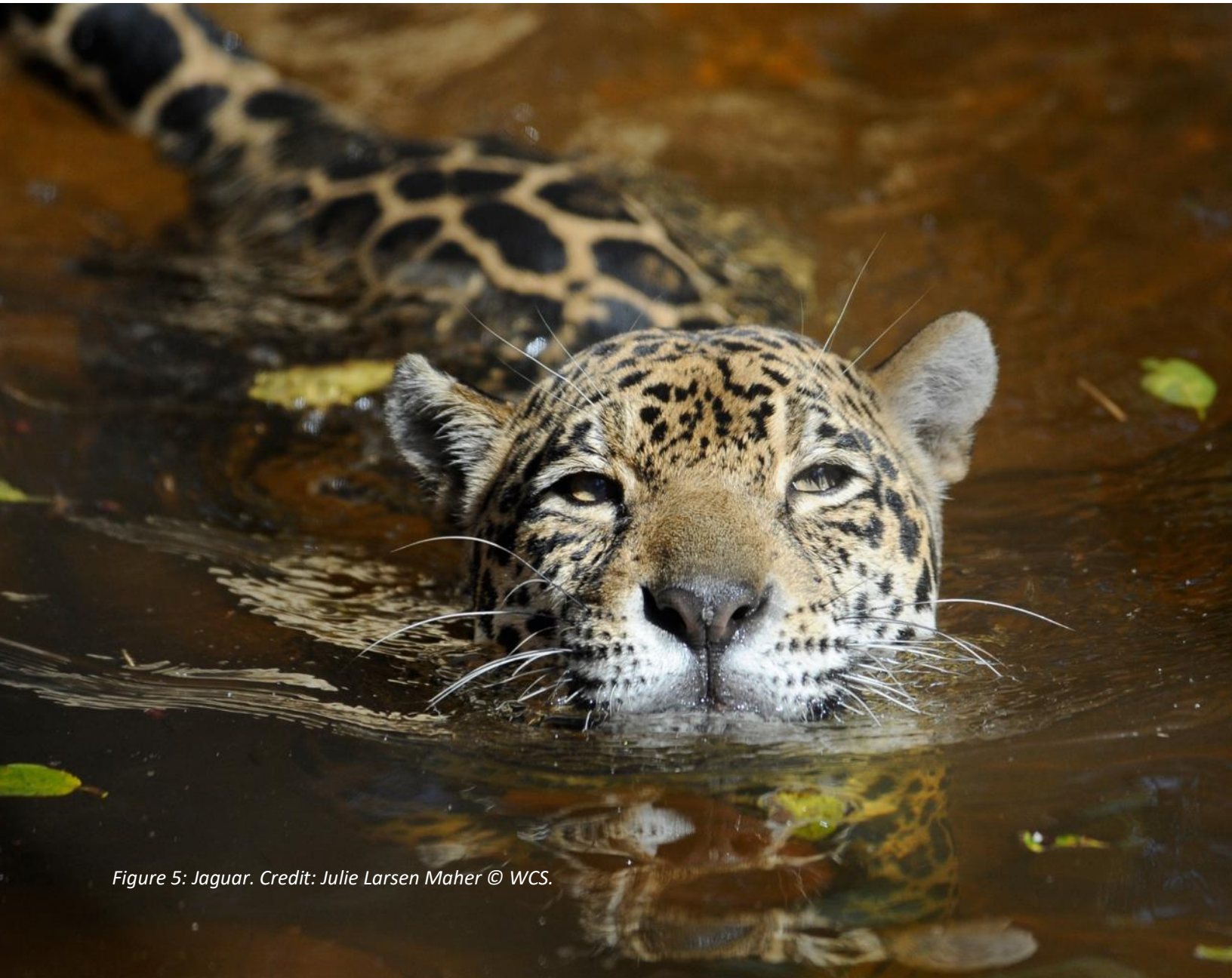


Figure 5: Jaguar. Credit: Julie Larsen Maher © WCS.

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## Annex A

### Relevant legal instruments protecting jaguars

#### Mexico:

Mexico is a signatory of CITES with the jaguar listed in Appendix I, so any international commercial trade of specimens from the wild is prohibited, and international movements for non-commercial purposes are subject to CITES regulations.

On a national level, the General Wildlife Law of 2000, modified in 2015, in the Article 94 states that: Sport hunting will be regulated by the provisions applicable to other extractive exploitations. However, the jaguar is listed in the national red list (NOM 059 SEMARNAT 2010) as threatened with extinction (En peligro de extinción), and according to Article 122 of the General Wildlife Law (Ley General de Vida Silvestre) any activities using individuals or species populations threatened with extinction or extinct in the wild are prohibited, with stricter sanctions for those involving any species listed under a category of risk as per the NOM 059 SEMARNAT 2010. In addition, an official agreement exists since 1987 (Veda indefinida para el aprovechamiento del Jaguar 1987) that declares an indefinite closed season on a national level thus prohibiting any hunting, capture, transportation, possession or trade of the species in the wild.

#### Belize:

The Wildlife Protection Act (Chapter 20) Part II, Control of Hunting, states:

3. Subject to the provisions of this Act, no person shall:

- (a) hunt any of the species of wildlife set out in the Schedule\*;
- (b) hunt any species of wildlife other than the species listed in the Schedule\*, except-
  - (i) if the person is a resident of Belize, pursuant to a valid resident hunting license (ii) if the person is not a resident of Belize, pursuant to a valid non-resident hunting license issued under section
- (c) hunt any obviously immature wildlife or any female accompanied by its young;
- (d) hunt any wildlife species employing any fire, trap, poison, spring gun, gin, pitfall, light or electric device or missile containing an explosive.

\*The schedule is a list of protected species, among them 17 species of large/medium mammals, including jaguar, so, in effect, the jaguar has legal protection. Belize does not have a mammal / vertebrate Red Book. There currently is a clause that does allow killing to protect people and livestock, under certain conditions.

5 (1) Nothing in this Act shall make it unlawful for any person to take such measures as may be reasonably necessary to defend himself or other persons from any attack by any animal.

(2) Any landholder or occupier or the owner of crops or domestic animals or any person acting on behalf of such person may, without the need of any other authorization, kill or capture on his property any wildlife threatening or causing material damage to such crops or domestic animals if such action is reasonably necessary in the circumstances.

(3) Any wildlife killed or captured under the provisions of subsections (1) and (2), and any part or product of such wildlife, shall be the property of the Government and shall be dealt with according to the provisions of section 23.

6. Except as the Minister may otherwise prescribe, whenever any wildlife has been killed or captured in any manner, the person killing or capturing or ordering the same shall, within one month, make a report thereof to the nearest game ranger, and shall forthwith pay such royalty or other fee as may be payable in respect thereof under the terms of this Act and any regulations, license or permit issued thereunder.
7. No person shall carry on the business of a dealer in wildlife except pursuant to a valid dealer's license issued under section 13.

In summary, killing jaguars in Belize is illegal, except under carefully prescribed circumstances when threatening human life and livestock. Trade in their parts is prohibited.

### **Guatemala:**

According to the General Law of Hunting (Decree Number 36-2004), the Article 11 states: Hunting is permitted with a hunter license which is processed annually; hunters who stop participating in this activity definitely must cancel their registration before the corresponding authority. It is allowed to hunt for four species of ungulates and two species of birds. The Article 21. *Prohibition of protected species*, a list of the species whose hunting is absolutely prohibited, as well as the commercialization, transit and use of their derivatives, will be published every year by CONAP. Decree 4-89 states in the article 81 bis that even with hunting authorization, overreach or abuse of the limits allowed in it (which includes hunting *endangered species*) will receive a sentence of five to ten years in prison and a fine of ten thousand to twenty thousand Quetzals (1300-2600 US\$). And the Article 82: Illegal trafficking of flora and fauna will be punished with imprisonment of five to ten years and a fine of ten thousand to twenty thousand Quetzals. The crime includes transport, exchange, market or export live or dead specimens, parts or derivatives of flora and fauna products threatened with extinction. Jaguars are categorized as Endangered in Category II on Guatemala's List of Endangered Species, and thus, hunting them is forbidden. In addition, trade in their parts is in effect, illegal, and punishable.

### **Honduras:**

Honduras does not have a specific law to protect jaguars and does not have an official red list of endangered species. Wildlife hunting is prohibited, especially for protected fauna and flora. Some game species can be hunted with a license. *Since Honduras does not have a current list of protected species, a review and update are recommended.* The General Law of Environment – Decree No 104-93 states: Article 41: Protected flora and fauna are those species of plants and animals that must be subject to special protection because of their rarity, condition in the ecosystem or the danger of extinction in which they are found. Its exploitation, hunting, capture, commercialization or destruction is prohibited. Article 42 states that: “Game animals are wild animals that can be hunted, with a license granted through the Wildlife Department of the Honduran Forest Development Corporation (COHDEFOR)”. *This is an additional indication that a review and update of wildlife laws would be helpful as the current management authority is the Institute of Forest Conservation, Protected Areas, and Wildlife (ICF).*

### **Nicaragua:**

The decree # 625 published in “La Gaceta” on May 16, 1977 was issued by national congress and it contains a prohibition for catching, hunting all kind of wildlife and turtle eggs, and it says:  
Article 1: “Forbid indefinitely the capture and hunting of all kind of wildlife with commercial purposes. At the same time, it is forbidden the export of them and their sub-products such as meat, skin, etc.” Article 5: to all persons who attempt to take out through any custom of the country skins of jaguars, ocelots, otters, cougars, panthers, crocodiles, deer and other wild animals, will be fined 2,000 Córdoba's (~62 USD) for each skin and these will be sized”.

The “*Special law of offences against the environment and natural resources, Law No. 559*”, *La Gaceta* dated on November 21 of 2005 contains restrictions on trade in wildlife, including species listed in the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). This law includes the Article 28.- Trade of fauna and flora. Individuals interested in the commercialization or public sale of species of wild fauna and flora that are not in danger of extinction or with commercialization restricted need to ensure that they have a special permission from the responsible authority. Those not complying will be sanctioned with a fine in Córdoba’s equivalent to one thousand to five thousand dollars U.S. and seizure of the species.

Persons who violate the prescriptions of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES) and related legislation, will be sanctioned with fines in Córdoba’s equivalent to two thousand to ten thousand dollars U.S. Repeated incidents for either cases will be penalized with double the fine and prison for six months to one year.

The “*Law of Conservation and sustainable utilization of biological diversity, Law 807*”, *La Gaceta* dated on October 19 of 2012, states in the Article 34: The following components will be subject to on-site conservation, among others:

1. Species, breeds, varieties or populations of unique strategic value, current or potential scientific or economic, with distribution areas reduced, highly fragmented, threatened, endangered, or with particular religious or cultural meaning. The Article 93 states: Serious infractions include the capture, mobilization, trade and possession of wildlife, products, by-products and genetic material without corresponding authorization.

The Resolución Ministerial No. 07-01-2016, *La Gaceta* dated on April 19 of 2016, contains full and partial Vedas (closed seasons) on wildlife, with the jaguar listed in the Veda Nacional Indefinida category (hunting prohibited). In addition, jaguars are categorized as CR (Critically Endangered) according the Nicaraguan Red Book of Mammals (Medina 2017). Several overlapping laws combine to prohibit killing of jaguars and trade in their parts in Nicaragua.

### **Costa Rica:**

The Law of Conservation of Wildlife 7317/1992 states in the Article 25: “The possession, hunting, fishing and extraction of wild fauna and flora, their products or by-products, for any purpose, when these animals or plants are declared, by the General Directorate of Life is prohibited. Wildlife of the Ministry of Environment and Energy, as small populations or in danger of extinction”. For this, the Article 29 of the Regulation to the Wildlife Conservation Law (32633 / 2005) states: “For the purposes of article 25 of the Law of Conservation of Wildlife, species of fauna in danger of extinction are declared those included in the following taxa: 13 mammal species, including the jaguar”. Jaguars are categorized in Costa Rica as Critically Endangered (En Peligro de Extinción, MINAE 2005), and thus, killing them is prohibited.

### **Panama:**

The Wildlife Law of the Panama Republic (24/1995) states in the Article 15 states: “It is forbidden to use and transport wildlife, its products or by-products, parts and derivatives, without the prior authorization of the National Directorate of Protected Areas and Wildlife of INRENARE (Natural Resources National Institute)”. The Article 38 states: “The capture, collection, transport and trade of wild species, products and by-products, parts and derivatives, with the exception of what is technically provided by INRENARE based on previously conducted studies, is prohibited in the entire national territory”. Jaguars are categorized as Endangered in Panama (MINAM, 2016), and thus, the killing of them, as well as trade in their parts, is illegal.



## Annex B

### Where and how to report illegal activities (e.g. jaguar poaching, trafficking)

#### MEXICO:

PROFEPA

01 800 776 33 72

Via web: <http://ow.ly/twSxQ>

Via email: [denuncias@profepa.gob.mx](mailto:denuncias@profepa.gob.mx) providing the following information:

- Name, address, telephone number (or person making the report and of the person violating the law, if available).
- Description of the problem being reported.
- Data as accurate as possible that can help locate the alleged offender (s) or the contaminating source, including photographs or documents

The person denouncing can request for his/her identity to be kept confidential and to be notified via email on actions taken based on the denouncement.

#### GUATEMALA:

Departamento de Vida Silvestre – Consejo Nacional de Áreas Protegidas'

52 Avenida 0-62 zona 2 Mixco, Guatemala

Telf. 2422-6700

Fiscalía de Delitos contra el Medio Ambiente del Ministerio Público

7a. Avenida 11-20, zona 1, Guatemala

Telf. 2230-3872, 2220-3767

#### BELIZE:

Forest Department

Forest Dr. S/N Belmopan

Telf. 322-22222

#### HONDURAS:

Dirección de Vida Silvestre - Instituto de Conservación Forestal

Col. Brisas de Olancho, Comayaguela, Tegucigalpa

Telf. 2223-3248

#### NICARAGUA:

MARENA (Ministerio del Ambiente y RRNN)

KM 12,5, Carretera Norte, Managua

Telf. 2233-1112, 2263-1994.

#### COSTA RICA:

Sistema Integrado de Trámite y Atención de Denuncias Ambientales - Ministerio de Ambiente y Energía

Avenida 15, Barrio Escalante, de la Iglesia Santa Teresita, 300 Norte y 150 Este, San José

Telf. 1192

Via web: <http://www.sitada.go.cr/denunciasPublico/> page is self-explanatory.

#### PANAMA:

División de Delito Ambiental - Dirección de Investigación Judicial

Atención primaria frente a Novey de Perejil

Tel 512-2266

Departamento de Vida Silvestre - Ministerio del Ambiente, Plaza Albrook, Local 17, Ciudad Panama

Tel 500-0878

## Annex C

### Examples of jaguar specimen seizures in Mesoamerica

#### Panama

**2013:** [http://www.telemetro.com/nacionales/ANAM-Herrera-decomiso-craneo-jaguar\\_0\\_630837055.html](http://www.telemetro.com/nacionales/ANAM-Herrera-decomiso-craneo-jaguar_0_630837055.html)

#### Costa Rica

**(2014, though the seizure was made in 1992)** <https://www.nacion.com/ciencia/medio-ambiente/muere-tiggy-el-jaguar-del-centro-de-rescate-las-pumas/O3YTX3ELYVGJG6VW64OAZUM5U/story/>

#### Nicaragua

**2009:** <https://www.laprensa.com.ni/2009/12/16/nacionales/10562-decomisan-puma-y-jaguar-en-restaurant-capitalino>

#### Honduras

**2015:** <https://tiempo.hn/decomisan-animales-en-zoologico-de-un-irani-en-honduras/>

#### Mexico

**2011:** <https://expansion.mx/planetacnn/2011/04/21/al-menos-siete-jaguars-y-tigres-en-cautiverio-son-rescatados-en-cancun>

**2013:** <http://www.m-x.com.mx/2013-07-26/la-profepa-decomisa-leon-dromedario-tigre-y-jaguar-a-circo-en-tlaxcala/>

**2017:** <https://www.elsoldemexico.com.mx/republica/sociedad/-230027.html>

**2017:** <http://www.jornada.unam.mx/2017/02/14/economia/034n1soc>

**2017:** <http://laopcion.com.mx/noticia/173031/realiza-profepa-el-mayor-decomiso-de-pieles-de-jaguars-en-las-ultimas-decadas-#!/close>

**2017:** <http://revistaespejo.com/2017/08/profepa-decomisa-ejemplar-de-jaguar-hembra-en-culiacan-tras-denuncia-en-redes-sociales/>

**2017:** <http://www.eluniversal.com.mx/nacion/seguridad/profepa-decomisa-un-jaguar-y-un-leon-africano>

**2018:** <https://aristeginoticias.com/0807/mexico/35-animales-abandonados-y-54-decomisados-tras-prohibirse-su-uso-en-circos-profepa/>

**2018:** <http://www.lavozdemichoacan.com.mx/morelia/realizan-fuerte-decomiso-de-animales-silvestres-en-michoacan/>

**2018:** <http://www.lineadirectaportal.com/publicacion.php?noticia=201718>

#### El Salvador

**2011,** the animal quite probably comes from a neighboring country -

<https://www.facebook.com/notes/salvanatura-fundacion-ecologica/denuncia-y-decomiso-de-un-jaguar-en-circo-king-brown/210099749029565/>

## Annex D

### Jaguar poaching/trafficking related questionnaire

Name \_\_\_\_\_

Country \_\_\_\_\_

Position \_\_\_\_\_

Institution \_\_\_\_\_

Contact information \_\_\_\_\_

1. Are you aware of any poaching cases in the past 5 years? If so,
  - Specifically, what parts of jaguar body? \_\_\_\_\_
  - Quantity of each body part type? \_\_\_\_\_
  - Where? Department, municipality, protected area/ranch, community, colonia/barrio, (please provide coordinates) \_\_\_\_\_
  - Were the trafficked parts seized/confiscated? YES NO
    - Date? \_\_\_\_\_
    - By whom? \_\_\_\_\_
    - Was this seizure/confiscation incidental/part of another investigation enforcement activity? \_\_\_\_\_
      - If so, what other investigation/enforcement activity? \_\_\_\_\_
      - If not, what investigative/enforcement actions are being conducted where the seizure/confiscation occurred? \_\_\_\_\_
  - Were the investigations/enforcements related to general wildlife trade initiatives? YES NO
    - If so, what initiatives? \_\_\_\_\_
  - Comments on this date and place specific intervention.
    - How did you learn about it? \_\_\_\_\_
    - Can you provide a link/reference if possible? \_\_\_\_\_
2. What is your perception of trends of jaguars being killed in your country/area/jurisdiction over the past 10 years?
  - More (%), less (%), same \_\_\_\_\_
  - Can you provide any documented information to support that perception? \_\_\_\_\_

\_\_\_\_\_

  - Based on your knowledge: Is it targeted or opportunistic killing of jaguars? \_\_\_\_\_

\_\_\_\_\_
3. What has been the purpose of the killings? (predator control, sport/trophy hunting, souvenirs, trade of parts (which parts? E.g. skins, bones, teeth? For medicinal purposes, other)? Within the last ten years? Within the last five years? \_\_\_\_\_
  - Who have been the actors involved in the killing? \_\_\_\_\_
  - Who have been the actors in the selling? \_\_\_\_\_
  - Who have been the actors involved in the transporting? \_\_\_\_\_
  - Who have been the actors involved in the purchasing? \_\_\_\_\_
  - Which of the above actors are local people, non-local nationals, foreigners? \_\_\_\_\_
  - If foreigners, where from? \_\_\_\_\_

4. Are you aware of:
  - Any jaguar trade hotspots? (markets, shops, localities, towns, etc.)
    - If so, can you provide coordinates? \_\_\_\_\_
  - Jaguar specimen trafficking routes? (Main sites of extraction, transit, and destination (local, national international)? \_\_\_\_\_
    - Can you provide any references/sources of information on trafficking routes?  
\_\_\_\_\_
  - The modus operandi of traffickers (how and where parts are solicited, purchased, transported, shipped)? Please describe. \_\_\_\_\_
5. Are you aware of any seizure/wildlife crime database in any institution? If yes, can it be consulted and how? Can you provide a contact person? \_\_\_\_\_
6. Are there reports (technical, scientific, media, official, etc.) referencing any case of jaguar poaching and or trade in jaguar specimens (live, parts, derivatives)? \_\_\_\_\_
  - If yes, please provide the link, reference or file if at hand) \_\_\_\_\_
7. Are there trafficking cases involving jaguar specimens, parts or derivatives that have been or are in the process of being prosecuted/sanctioned in your country/region?  
\_\_\_\_\_
8. What are the jaguar specimens/item types in trade you know about? \_\_\_\_\_
9. What are the prices of such specimens/item? (local/national/international prices if known)  
\_\_\_\_\_
10. What is your perception of the killing of jaguars as predator control, for trafficking as a priority for jaguar conservation (low, medium, high, urgent)? \_\_\_\_\_
11. What is your perception of jaguar poaching/trafficking as a government/authorities priority for jaguar conservation in your country? (low, medium, high, urgent) \_\_\_\_\_
12. Is there any jaguar conservation plan in your country? \_\_\_\_\_
13. Do you consider the legal frameworks (national/international) related to jaguar trafficking to be adequate? **YES NO**
  - If not, what parts in specific are inadequate? \_\_\_\_\_
    - Laws? \_\_\_\_\_
      - How so? \_\_\_\_\_
    - Enforcement (arrests)? \_\_\_\_\_
    - Prosecution of cases? \_\_\_\_\_
  - What would the required changes need to be in the above? \_\_\_\_\_
  - Where do the required changes need to take place? \_\_\_\_\_
  - Can you recommend steps towards those changes? \_\_\_\_\_
14. What would your top 5 suggestions/recommendations be so as to address jaguar trafficking in your country?
15. Please provide any additional comments that you consider appropriate.



## Annex E

### Jaguar experts and affiliations that provided information through answered questionnaire

Antonio de la Torre  
Consultor independiente  
Instituto de Ecología, UNAM /  
Bioconciencia A.C., México

Carlos Mario Orrego  
Coordinador Nacional de Vida Silvestre  
Ministerio del Ambiente y Energía - Costa Rica

Daniel Corrales-Gutiérrez  
Coordinador del Proyecto  
Convivencia Felinos-Ganado  
Panthera Costa Rica

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Encargado del Área de Monitoreo Biológico  
Reserva de la Biosfera Calakmul  
México

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Profesor e Investigador  
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Monitoreo de Biodiversidad  
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WCS Belize

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Ninon Meyer  
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Patricia Oropeza Hernández  
Jefe de Departamento de Proyectos de  
Recuperación de Especies en Riesgo  
Comisión Nacional de Áreas Naturales  
Protegidas, SEMARNAT - México

Ricardo Moreno  
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Fundación Yaguará Panamá

Roberto Salom-Pérez  
Director para Costa Rica y  
Coordinador para Mesoamérica  
Panthera - Costa Rica

Rodrigo Núñez  
Investigador, Proyecto Jaguar,  
Michoacán, México

Ronit Amit  
Coordinadora e Investigadora  
Programa Gente y Fauna Costa Rica

Rony García Anleu  
Director, Departamento de Investigaciones Biológicas  
WCS - Guatemala

Sandra Hernández Potosme  
Coordinadora  
Panthera - Nicaragua

Stephanny Arroyo Arce  
Coastal Jaguar Conservation  
Panthera - Costa Rica

Yahaira Urbina  
Environmental Research Institute  
University of Belize

## Annex F

### Questionnaire responses per country

**MEXICO** (Information and recommendations provided by Antonio de la Torre, David Enrique Simá, Patricia Oropeza Hernández, Heliot Zarza Villanueva, Rodrigo Núñez; for institutional affiliations please refer to Annex E)

Mexico has been a signatory Party to CITES since 1991. Wild jaguar populations are categorized as Critically Endangered in the Mexican List of species at risk (NOM 059-SERMANAT 2010) and are protected under law, which is enforced by PROFEPA (Federal Attorney for the Protection of the Environment). Multiple jaguar researchers and conservationists have contributed to the “Action Plan for the Conservation of the species: Jaguar” that is implemented by the Environment and Natural Resources Secretary (SERMANAT). In addition, CONANP (National Protected Areas Commission), in coordination with SAGARPA (Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food) has implemented a cattle depredation insurance (SAD, established in 2009) working closely with the “National Confederation of Ranchers Organizations of Mexico”, that encourages tolerance towards wild carnivores, to reduce the approximately 100 jaguars lost in retaliation per year nationwide. This program promotes improvement in livestock management in select localities, and includes a fund that provides financial compensation in the case of cattle lost to carnivores, diseases and natural disasters. In the first six years of work, SAD attended 826 complaints, of which 644 were compensated. Jaguar attacks constituted 34% of the total, feral dogs and coyotes 35%, pumas 27% and 13% by other species (bear, crocodiles, etc.). The SAD program hypothesizes that for every three events reported and compensated, one jaguar is not killed in retaliation. Legally established and registered operations that breed jaguars and other big cats in captivity can and do sell live specimens. Jaguar poaching often occurs in areas where environmental law enforcement capacity is weak, with penalties rarely applied. Our respondents reported that authorities in charge of enforcing against poaching often do not follow reporting protocols adequately, preventing the cases from

being fully prosecuted and sometimes the cases are eventually dropped.

Our respondents report that jaguar parts in illegal trade are generally sold by the people that killed the jaguar (either ranchers, or specialized hunters hired to kill jaguars considered to be problem animals causing cattle losses) to people/visitors from larger urban areas in the Yucatan peninsula. Parts sold include skins, teeth (particularly canines), and claws which are used in handicrafts and jewelry such as necklaces and earrings. Our informants reported that illegal trade in skulls has been encountered in bus terminals, taxi stands or tourist buses, open air markets, in streets frequented by tourists during holidays, and in visits to hunters’ houses. Live animals, mostly jaguar cubs, are illegally traded as pets, acquired by wealthy individuals, such as those who own large ranches and properties where they are kept as pets in cages. Less frequent are cases of local people keeping jaguars as pets in the areas of origin. Our respondents reported prices ranging from skins between USD\$100 and \$420 with an average of USD\$210 – 260; teeth (apparently the most commonly sold pieces) fetching USD\$15-25, and claws being offered at around USD\$2.60 and necklaces and earrings with jaguar parts at between USD\$13 -15. Complete skulls are attractive pieces for some collectors and cost around USD\$80-100 and jaguar cubs between USD \$500 and \$1500. Jaguar parts are offered in urban/tourist sites not far from where they were hunted, or apparently following a route north from the country’s largest jungles to Mexico City (with the Mercado de Sonora being a distribution/selling point among other) or south to the border with Guatemala.

The main reported reason for killings originates with ranchers controlling real or perceived livestock losses. Livestock losses due to jaguar attacks reinforce the species’ bad image and are used by some people to justify any opportunity to kill jaguars even when not proven to be involved in a cattle attack. Some wealthy ranchers hire a “tigrero” to eliminate specific problem animals, paying them usually from USD\$50 to \$100 and in some cases up to \$250.

### **Recommendations:**

#### **Legal:**

1. Ratification by the Mexican Senate, on the use of video or photographs as evidence to process an offense or crime.
2. Increase penalties for traffickers of species in the Mexican “red list” NOM059-SEMARNAT2010.
3. Ensure that consequences of illegal hunting and trafficking of specimens from wild origin are extremely explicit and clear in the law, and conduct a vigorous campaign to inform people.

#### Enforcement:

4. Dedicate more financial and personnel resources, including training to strengthen institutions in charge of combating environmental crimes, such as the “Specialized Investigation Unit on Crimes Against the Environment and Considered in Special Laws (Unidad Especializada en Investigación de Delitos contra el Ambiente y Previstos en Leyes Especiales -UEIDAPLE)”, PROFEPA and PGR (General Attorney’s Office) mainly based in the field (where crimes take place) to investigate and prosecute such cases.

5. Improve databases on poaching and trafficking cases, illegal trade, crimes and seizures

#### Management and outreach

6. Expand the funds and access to cattle depredation insurance to the entire country, including isolated areas where it is currently not being applied/used.
7. Implement a technical support program for livestock management in order to reduce human-jaguar conflict and related poaching of jaguars and other carnivores.
8. Increase dissemination efforts about wildlife poaching/trafficking related laws.

→ Most of these actions should be elevated into the agenda of political actors (i.e. Mexican Congress)

## **GUATEMALA**

(Information and recommendations provided by Melvin Mérida, Gabriela Ponce and Rony García, for institutional affiliation please refer to Annex E)

Guatemala has been a signatory Party to CITES since 1979. Jaguars are considered as Endangered in Category 2 on Guatemala’s List of Endangered Species. Even though laws in Guatemala are adequate and penalties include fines of up to USD2700, with jail terms of up to 10 years according to the Law on Protected Areas, Decree 4-89 (Articles 81 bis and 82), penalties have thus far not been applied to jaguar

traffickers. Only a few cases involving trafficking in Psittacines have received severe penalties to date. The main challenge is the implementation of the legal frameworks. Follow up by the government, through to the sentencing stage, has been challenging

Illegal trade in jaguar parts in Guatemala includes skins, teeth, skulls and even tails. Information provided by experts consulted indicates that in some instances, parts are sold directly by the hunters, such as canines that are mounted in gold and used as necklaces and other ornaments. According to one wildlife rescue facility, they have received young jaguars, in most instances as a result of the mothers being killed by people in response to livestock predation conflicts, and hunters keeping the cubs. A complete individual illegally hunted was confiscated in 2012 by CONAP (National Council of Protected Areas) at Flores, Petén. Prices range from teeth and canines being sold at USD\$60-65 or a skull at around USD\$150, to a complete jaguar skin that can cost as much as USD\$500. Based on the information received, poaching of jaguars has been generally opportunistic with organized hunts mostly occurring when a jaguar attacks livestock, and ranchers go after the animal to kill it. The experts that we consulted considered that killing of jaguars has been reduced due to collaborative work by NGOs, governmental institutions and farmers living close to national parks to reduce conflicts with humans, with hunting now only happening in cases of livestock predation; the hunting is either directly by livestock owners or by hired hunters. In Guatemala, the confiscation of jaguar parts and the rescue of live animals are registered by the Wildlife Department of CONAP (National Council of Protected Areas). The information on poached jaguars is scarce, possibly much less than the levels of hunting actually occurring, but in areas where WCS has engaged, we have 12 years of data that show jaguar-livestock related killings have diminished.

#### Recommendations:

##### Legal and enforcement:

1. Promote and support the follow-up of cases up to sentencing that can be used as a deterrent.
2. Provide training and strengthen capacities of the Division of Nature Protection (DIPRONA) of the National Civil Police, as well as the Police, Public Ministry and Judges on environmental crimes with particular focus on wildlife trafficking.

3. Train the judiciary (court personnel) on environmental crimes.
4. Improve the management of seizure and rescue information through an accessible database for inquiries by personnel from key management/enforcement institutions (CONAP, NGOs).

Research, Management and Outreach:

5. Strengthen the capacities of managers of control posts and institutions responsible for wildlife protection, such as CONAP on both technical and operational fronts.
6. Conduct outreach efforts to inform on the status of jaguars and to encourage the reporting of illegal activities by civil society
7. Investigate the status of jaguar parts trafficking/hunting as a result of livestock predation and black market in pets.
8. Increase biological monitoring of jaguar populations

→ Efforts should be made to elevate these issues with the Guatemalan Congress.

**BELIZE** (Information and recommendations provided by Yahaira Urbina and Lee McLoughlin, for institutional affiliation please refer to Annex E).

Belize has been a signatory Party to CITES since 1986. The jaguar is considered Near Threatened nationally according to the national list of critical species. Legislation on wildlife trafficking in Belize protects jaguars: *"Subject to the provisions of this Act, no person shall hunt any of the species of wildlife set out in the Schedule (the Schedule is a list of 30 species, including jaguar) - Wildlife Protection Act - WPA PART II - 3(a).* However, according the interviewees, this Act needs to be updated as the standard fines/sanctions are low. There also is an exception in this law that states: *"Nothing in this Act shall make it unlawful for any person to take such measures as may be reasonably necessary to defend himself or other persons from any attack by any animal."* WPA PART II -5(1). For these cases, the regulatory authority has relied on the honesty of farmers or civilians that have 'problem' jaguars to report them and call the Forest Department for assessment.

During the last 5 years, only one attempt to sell a body of a jaguar has been reported in Belize in Cayo District (near Belmopan) with price asked unknown.

However, local people perceive a possible increase in jaguar meat consumption, and attribute that to the Asian community living in Belize. Jaguar poaching is perceived to be mainly opportunistic and largely driven as a control measure for animals predating on livestock. That said, active hunting is reportedly becoming more common in order to obtain teeth that are sold as souvenirs in local markets to tourists and members of the Asian community. Jaguar canines have been sold at USD\$80 -100 each. Supporting these data, Urbina and Harmsen (2017) reported that from 1525 interviewees, 54 (4%) had jaguar teeth, but not necessarily for trade. Forty-eight interviewees answered questions about jaguar killings and half of them indicated that jaguars are killed for commercial reasons, to sell body parts or meat. In 20% of the cases the jaguar was killed for personal consumption as a game species. In most cases (28%) carcasses are discarded or buried as it concerns retaliatory killing without profit. Only one case was reported in which the carcass was examined and removed by the Forest Department.

Recently (Dec 2017) two feline bodies were found floating in Belize waterways, one in a canal in Belize City, one in the Belize River (part of which feeds into the city). With the first body, a jaguar in the canal, only photographs were taken, no necropsy was conducted. However, the second, in the Belize River, was recovered from the water and cooled with ice to avoid decay. A necropsy conducted by professional veterinarians indicated that it had been snared, executed with a bb gun, and decapitated. Even though finally identified as an ocelot, the case took on a greater significance since government officials had recently encountered jaguar tooth jewelry in the coastal town of Placencia, and there had been rumors of a market for jaguar teeth in the country, potentially associated with the Asian community. In response the Belize Ministry of Agriculture, Fisheries, Forestry, the Environment, Sustainable Development, and Immigration issued a statement about the crimes – in a news release that was carried in national media and television, offering a reward of USD\$5,000 for information that lead to the arrest and conviction of the perpetrators. In addition, the government raised the penalties for illegal killing of jaguars to USD\$5,000 or 12 months in prison.

**Recommendations:**

**Legal and enforcement:**



1. Review and update the Wildlife Protection Law and train Forest Department personnel on the potential extent of jaguar trafficking in the country.
- Outreach and research
2. Develop and implement an outreach campaign to inform the public about jaguar threats including trafficking
3. Identify the sources of demand for jaguar parts.
4. Investigate the relationship between the tourism industry and jaguar trafficking
5. Implement studies in the Cayo District which is suspected to be a source area for potential wildlife trafficking.

## HONDURAS

(Information and recommendations provided by Hector Portillo and Juan Pablo Suazo, for institutional affiliation please refer to Annex E)

Honduras became a Party to CITES in 1985. Although there is a legislation on crimes against wildlife ("Hunting and capture of threatened wildlife is forbidden", Article 117, Forestry Law, Protected Areas and Wildlife), it has no details about which species it refers to. At present no wildlife receives clear legal protection. A "List of Species of Special Concern" was created in 2008, but has not been ratified. Jaguar poachers are usually not penalized; resources to enforce and apply the law along the trade chain, from remote areas where animals are poached to potential selling hotspots such as tourist-frequented areas in the Caribbean, are scarce. Skins and teeth are reportedly the most commonly traded jaguar parts in Honduras. Trade of two jaguar skins has been reported at Wampusirpi, Gracias a Dios Department, without data about the price. Jaguar canines were sold in the Mosquitia at USD\$5, while skins cost USD\$15. A report exists on the confiscation of a jaguar cub at Wampusirpi, Gracias a Dios Department in February 2016 by the ICF (Institute of Forest, Protected Area and Wildlife Conservation) during an intervention on drug trafficking. Even though this finding was accidental, it is believed that the animal was to be sold as a pet in San Pedro Sula. Live cubs are known to have been offered at up to USD\$100. Poaching is mostly attributed to local hunters and ranchers. Information provided by the experts we consulted indicated that buyers of jaguar parts are mostly international tourists in larger urban areas such as San Pedro Sula with trading routes

possibly being from the Mosquitia to the Honduran Caribbean. Nonetheless, trade in jaguar parts seems to be opportunistic, by people who happen to have such specimens in their houses (because of the killing of jaguars in response to domestic animal predation) and offer them to make money on the side of their regular activities if the opportunity arises.

In general, jaguar poaching is believed to occur when animals attack cattle, partly due to deforestation and the advance of the agricultural and livestock frontier invading their habitat. Offenders are usually not penalized, as no resources exist for authorities to enforce and apply the law in remote areas where animals are poached.

### Recommendations:

#### Legal:

1. Clearly define the level of threat of the jaguar in Honduras
2. Develop decrees/legislation to penalize the trafficking of species, with sufficient penalties to serve as deterrent for criminal activities to be committed

#### Enforcement:

3. Improve communication and collaboration between judges and prosecutors for an improved and effective implementation of legal frameworks related to wildlife crimes.
4. Reinforce the institutional presence of enforcement authorities in isolated areas where people cohabit with the jaguar

#### Management and outreach:

5. Environmental and legal education at sites where jaguars are being illegally hunted
6. Promote livestock management to reduce conflicts with large felids

## NICARAGUA

(Information and recommendations provided by Sandra Hernandez, for institutional affiliation please refer to Annex E)

Nicaragua became a Party to CITES in 1977. Jaguars are categorized as Critically Endangered by the Nicaraguan Red Book (Medina 2017) and there is a national ban on hunting threatened species of wildlife (Resolution 07.01.2016, Ministry of Environment and Natural Resources) that includes jaguar hunting. Anecdotal information indicates the illegal trade in skins and teeth, especially in the northern area of the

Caribbean Coast Autonomous Region, such as in Bilwi, Puerto Cabezas, where key chains made with jaguar teeth were observed by the expert consulted. However, jaguar parts do not appear to represent an important trade, and were only sold locally for low prices, in the form of handcrafts such as necklaces or key rings with teeth. Skins hanging on the wall and canines were observed in some houses in local communities, but only as a symbol of hunting, not with commercial purposes.

The advance of the agricultural frontier is limiting the populations of jaguars and their prey, as described in Petracca et al. (2014); therefore, hunting is opportunistic and mainly for predator control due to conflict with livestock.

When this occurs, those involved are allegedly the local people and owners of the cattle farms. In some instances, it is known that stores buy jaguar parts from hunters to have different souvenirs to offer to visitors. In Puerto Cabezas, two jaguar skins were offered for sale at USD\$45 each and teeth at USD\$5/piece. Canines were observed to be offered for sale at a price of USD\$20 in a store in 2010.

#### **Recommendations:**

##### Enforcement:

1. Strengthen capacities of authorities on legal frameworks, specimen identification and enforcement protocols in case of poaching/illegal trade.
2. Improve mechanisms to document, register and analyze information on wildlife crimes including jaguar trafficking and poaching to inform management and enforcement actions

##### Outreach and research:

3. Share information (including this report) with Nicaraguan authorities in charge of hunting control and wildlife trade to elevate awareness of the potential threats and the tools available to address them.
4. Implement outreach campaigns in key tourist sites to deter potential buyers of entering the illegal trade of jaguar parts
5. Undertake market surveys with a focus in jaguar parts as ornaments in more heavily frequented Caribbean tourism destinations and within public crafts and jewelry markets.

## **COSTA RICA**

(Information and recommendations provided by Carlos Mario Orrego, Daniel Corrales-Gutiérrez,

Eduardo Carrillo, Luis Fonseca López, Roberto Salom-Pérez, Ronit Amit, Stephanny Arroyo Arce, for institutional affiliation please refer to Annex E)

Costa Rica became a Party to CITES in 1975. The species is nationally listed as Critically Endangered (Law 32633, MINAE, 2005). There is no specific conservation or action plan for jaguars in Costa Rica. A National Human-Jaguar Coexistence Plan has been developed and is being implemented in several cattle ranches. In some specific areas, jaguar conservation is a priority for authorities, but efforts and attention are not distributed evenly across the country.

Out of seven researchers in Costa Rica that provided information on jaguar poaching and trafficking, only one reported trade in jaguar parts, which suggests that it is not a common activity in this country. Parts that are known to have been traded are teeth and paws in the northeast region with some unconfirmed trade in the extreme south. There is a report of cubs that were offered for sale, but this could not be confirmed. General agreement among experts consulted is that most of the jaguars killed are at the hands of ranchers and farmers acting in retaliation for livestock losses. In some instances, professional hunters, mostly local, or from the capital San José are hired to kill the problem animal. Sporadic illegal sport hunting cases have also been reported with hunters keeping the skin/skull as a trophy.

Even though illegal trade of jaguar specimens seems to be rare in Costa Rica, unsubstantiated rumors exist that Chinese immigrants are buying jaguar parts (bones, teeth) for medicinal purposes; however, there is no tangible data to confirm this. There is a report of a jaguar's paw that was traded for a calf valued at approx. USD\$600.

#### **Recommendations:**

##### Legal:

1. Elevate border, airport and customs controls for possible illegal cases of jaguar parts trade.
2. Update and harmonize national legislation, action plans for jaguars, and implementation of wildlife laws since they are unevenly enforced across different sub-regions of the country.

##### Enforcement:

3. Provide training and tools for enforcement and management authorities to allow for the traceability of wildlife products
4. Strengthen capacities and coordination along the enforcement chain, from field investigators to prosecutors and judges.
5. Implement investigation/Intelligence activities to identify and capture the commercial hunters mentioned by one respondent

Management:

6. Promote people-jaguar coexistence plans and invest in conflict prevention as in the Conflict Response Unit with Felines of the Ministry of the Environment.
7. Empower local communities to perceive the benefits of coexisting with felines and thus be part of improved controls and anti-poaching efforts.

## PANAMA

(Information and recommendations provided by Julio Moreno, Ninon Meyer, Ricardo Moreno and Josue Ortega, for institutional affiliation please refer to Annex E)

Panama became a Party to CITES in 1978. The species is considered as Endangered at a national level (Resolution N° DM-0657-2016, Ministry of Environment) There is an Action Plan for jaguar conservation in Panama that was elaborated by the Ministry of the Environment (National Environmental Authority at the time (2011)). Even though wildlife hunting is regulated, it is particularly challenging that the offender must be caught red-handed while committing the crime or else it is extremely difficult to charge him/her with an offense.

According to experts consulted, all jaguar parts have been found in illegal trade in Panama, including bones, meat, skin, teeth, claws and fat. These reports come from eight different locations: five of them in the central area of the country and the other three in the East, near the border with Colombia (Darién). Even with this existing trade, and an increasing number of jaguars being illegally hunted in recent years, no legal actions have so far been taken against offenders. There is no clarity if the current situation and threats faced by the jaguars are the same as in recent decades or if it has worsened, as baseline data does not exist.

The main driver for jaguar poaching seems to be the control of animals predating on livestock, with the

last 5 years showing an increase in directed hunting of individuals based on information provided by Panama experts and information presented in Moreno et al. (2015). Poaching of jaguars is allegedly done by farmers, ranchers or indigenous people. In addition, jaguar populations also suffer from the occasional sport hunter looking for a trophy, which even though not contributing to illegal trade, is illegal and compounds existing threats to the species.

Information provided indicates that both locals and foreigners are purchasing jaguar parts. The general sense is that local people are mostly interested in skins and canines, while Asians have been buying mostly bones (although it is reported that they also buy the whole animal). Prices of canines range between USD\$50 and USD\$100 with skins fetching USD\$75 – USD\$200. Reports are that Asians pay around USD\$300 to kill a jaguar and approximately USD\$ 400 for the bones. The reports we received stated that when jaguar parts are a “side benefit” of an animal killed by a rancher in retaliation for cattle losses, prices are generally low, while specimens (i.e. canines, skull, skin, paws, bones, etc.) obtained as a result of targeted poaching to supply an illegal market of jaguar parts appear to yield significantly higher prices.

## Recommendations:

### Enforcement:

1. Train environmental prosecutors, police and environmental ministry personnel on environmental crimes and counter wildlife trafficking
2. Develop and implement environmental education plans at different levels which integrate the threat of illegal trade to wildlife with an emphasis on jaguars

### Communications and outreach:

3. Develop and implement outreach efforts (including social media) to inform the public on the threat of illegal trade to wildlife (with an emphasis on jaguars), penalties and risks involved when committing wildlife crimes
4. Raise the profile of wildlife crimes at the ministerial level to increase political will and commitment that translates into improved laws, resources and efforts to combat wildlife trafficking including that of jaguar parts.