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Title: A range-wide analysis of legal instruments applicable to jaguar conservation

Corresponding Author: Heidi E. Kretser^{1,2}, hkretser@wcs.org

Co-Authors: Monica Nuñez-Salas³, John Polisar^{1,4}, Leonardo Maffei¹

¹ Wildlife Conservation Society, Bronx, NY, USA

² Cornell University, Ithaca, NY, USA

³ Universidad del Pacífico, Lima, Perú

⁴Zamorano Biodiversity Center, Zamorano University, Tegucigalpa, Honduras

Abstract

The jaguar (*Panthera onca*) is one of five *Panthera* cats facing global conservation concerns. The International Union for Conservation of Nature (IUCN) considers the jaguar to be near threatened and its global population has declined by an estimated 25% in 25 years. Current jaguar populations range from Mexico to Argentina with some individuals confirmed in the United States. For this article we compile and review the legal protections categorized in the constitution, national laws, and infra-legal level in each of those countries to identify the presence of government approved endangered species lists, specific jaguar protection laws, government approved jaguar management plans and human-wildlife conflict regulations, and the administrative and criminal sanctions for hunting and wildlife trade. We also note which laws allowed for legal killing of jaguar for hunting, subsistence use or conflict. We recommend that countries adopt jaguar specific protection laws, establish and update clear administrative and criminal penalties, modify existing law language to ensure improved adoption, enforcement and prosecution, recognize non-binding management practices through legal channels and harmonize legal policies across countries. We

propose additional reviews on illegal wildlife trafficking, human-wildlife conflict, and enforcement, among others, to continue identifying legal gaps. This first range-wide assessment of and perspective on jaguar legislation illustrates opportunities for strengthening legal protections by comparing across the variety of structures and approaches employed to conserve this important species.

Keywords: jaguar, wildlife trafficking, CITES, wildlife law

1. Introduction

Jaguars (*Panthera onca*), the only member of the *Panthera* genus of large cat species that occurs in the Americas, are absent from approximately 50% of their historic range.¹ Despite international calls for protection dating to the 1970s and global interest in the conservation of this species, the total jaguar population was recently estimated to have declined by an estimated 20-25% in under 25 years.² Understanding what national laws protect jaguars within each country will contribute to conservation efforts at both the national and range-wide levels.³ Every country in jaguar range has its own set of national laws applicable to the species and the legal systems applied vary across the species' range.⁴ This first range-wide compilation and analysis of existing laws affecting jaguars and the relative strengths and weaknesses of these laws can help guide interventions to strengthen legislation and enforcement.

¹ Eric W. Sanderson et al., *Planning to Save a Species: the Jaguar as a Model*. 16 CONSERV. BIOL. 58 (2002); Kathy A. Zeller, *Jaguars in the New Millennium Data Set Update: The State of the Jaguar in 2006*. Wildlife Conservation Society, Bronx, New York (2007); J. Antonio de la Torre et al., *The Jaguar's Spots are Darker Than They Appear: Assessing the Global Conservation Status of the Jaguar Panthera onca*. 51 ORYX 300 (2017); Howard Quigley et al., *Panthera onca* (errata version published in 2018). THE IUCN RED LIST OF THREATENED SPECIES (2017): e.T15953A123791436. <http://dx.doi.org/10.2305/IUCN.UK.2017.3.RLTS.T15953A50658693.en> (last visited 10 July 2019).

² de la Torre et al., *supra* note 1.

³ UNITED NATIONS DEVELOPMENT PROGRAM. Jaguar 2030 New York Statement. 1 March (2018). <https://www.undp.org/content/undp/en/home/news-centre/announcements/2018/jaguar-2030-new-york-statement.html> (last visited 8 August 2019).

⁴ See Appendices I. List of Laws, and II. Country Summaries

2. Jaguar Population and Conservation Status

The current jaguar range is between northern Mexico and northern Argentina. Historically the species ranged into the southern United States and farther south in Argentina. The larger more permanent population strongholds are labelled “Jaguar Conservation Units (JCU)”⁵ and, of these, an enormous nine country Greater Amazon JCU contains the majority of jaguars.⁶ These JCUs are connected by more modified and/or less protected habitat that may include lower jaguar densities and function as movement and dispersal corridors.⁷

The species is currently listed as Near Threatened at a range wide level in the IUCN Red List.⁸ Global population estimates vary with one published at ~64,000 individuals and another at 173,000 with some caveats.⁹ The relatively robust population in the Amazon JCU categorized as Least Concern currently biases the range-wide status.¹⁰ Assessments of 34 subpopulations revealed that 25 remnant subpopulations could be considered Critically Endangered and eight subpopulations qualify as Endangered using IUCN definitions.¹¹ Using IUCN criteria, the official National Red List website shows Argentina and Nicaragua list jaguar as critically endangered; Brazil, Bolivia, Colombia, and Venezuela list jaguar as vulnerable.¹² For Mexico and Ecuador, the website lists jaguar as Near Threatened despite updated

⁵ Sanderson et al., *supra* note 1, at 60 (Jaguar Conservation Units defined as “1) areas with a stable pre community, currently known or believed to contain a population of resident jaguars large enough (At least 50 breeding individuals) to be potentially self-sustaining over the next 100 years, or 2) Areas containing fewer jaguars but with adequate habitat and a stable, diverse prey base, such that jaguar populations in the areas could increase if threats were alleviated”).

⁶ Sanderson, *supra* note 1; de la Torre, *supra* note 1; Włodzimierz Jędrzejewski et al., *Estimating Large Carnivore Populations at Global Scale Based on Spatial Predictions of Density and Distribution - Application to the Jaguar (Panthera onca)*, 13 PLOS ONE 26 March, 13, 1 (2018) e0194719. <https://doi.org/10.1371/journal.pone.0194719>.

⁷ Alan Rabinowitz & Kathy A. Zeller, *A Range-Wide Model of Landscape Connectivity and Conservation for the Jaguar, Panthera onca*. 143 BIOL. CONSERV. 939 (2010).

⁸ Quigley et al., *supra* note 1.

⁹ de la Torre et al., *supra* note 1; Jędrzejewski et al., *supra* note 6.

¹⁰ de la Torre et al., *supra* note 1.

¹¹ Quigley et al., *supra* note 1.

¹² <https://www.nationalredlist.org/> (last visited 17 December 2020).

work in country categorizing jaguar as critically endangered.¹³ Honduras appears on the site using non-IUCN criteria. Having updated National Level IUCN Red Lists is an important step which could have implications for the structure of national laws and updating government approved endangered species lists.

A “2030 Jaguar Forum” at the United Nations in March 2018 launched a range-wide initiative that recognized, “investing in the conservation of jaguars and their habitats can improve broader efforts to manage natural resources, strengthen community livelihoods, and contribute to achieving Sustainable Development Goals.”¹⁴ The forum established a 2030 Jaguar Coordinating Committee that drafted a detailed “2030 Jaguar Conservation Road Map” that prioritizes jaguar strongholds and linkage corridors in a regional plan to save jaguars and jaguar habitat by mainstreaming jaguar conservation in national planning throughout the species range. Each separate country’s commitment will be the building blocks for achieving a unified range-wide “bridge” intended to effect jaguar conservation at a large scale.

Within this context of multinational strategic initiatives around jaguar conservation coupled with the heterogeneity of subpopulations, it is crucial to understand the structure of existing laws in each country that aim to protect jaguars, compare strengths and weaknesses across the taxonomy of legal approaches, and recommend potential next steps to assist progress towards a comprehensive set of effective nationally-adapted protections and management prescriptions for jaguars.

2.1. Threats to Jaguar Conservation

¹³ *Id.*; NOM-059-SEMARNAT-2010 Diario Oficial de la Federación, 30 de diciembre de 2010, Segunda Sección; Ministerio del Ambiente and Wildlife Conservation Society. 2014. PLAN DE ACCIÓN PARA LA CONSERVACIÓN DEL JAGUAR EN EL ECUADOR (2014) <https://global.wcs.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=33798&PortalId=95&DownloadMethod=attachment&test=1> (last visited 23 April 2021)

¹⁴ UNITED NATIONS DEVELOPMENT PROGRAM, *supra* note 3.

Jaguars face a myriad of threats from deforestation and human encroachment for agriculture,¹⁵ road expansion,¹⁶ persecution from human-wildlife conflict,¹⁷ depletion of prey base,¹⁸ and illegal trade.¹⁹ These threats sometimes operate synergistically to accelerate population declines and are relatively well-documented in the literature, as in the case of the Atlantic Forest of Brazil, Argentina and Paraguay where 85% of potential jaguar habitat has been lost and only a scattered population of ~300 jaguars remain.²⁰ We provide a brief summary of threats below. The conservation status of jaguars is unlikely to improve unless threats are clearly addressed in national laws and loopholes for exacerbating or exploiting the threats are closed.

2.1.1. *Habitat Loss*

Jaguars currently occur in approximately 51% of their historic range dated to 1900.²¹ During the period from 2000-2012, the sum total of jaguar conservation units lost nearly 1% of total area to deforestation and corridors between the units lost 4% of total area.²² Habitat for an estimated 4,026 jaguars was lost or converted in 11 years within the nine-country Amazon-Guiana Shield stronghold.²³ Based upon estimates of

¹⁵ Peter J. Olsoy et al., *Quantifying the Effects of Deforestation and Fragmentation on a Range-Wide Conservation Plan for Jaguars*. 203 BIOL. CONSERV. 8 (2016); Agustín Paviolo, et al., *Barriers, Corridors or Suitable Habitat? Effect of Monoculture Tree Plantations on the Habitat Use and Prey Availability for Jaguars and Pumas in the Atlantic Forest*. 430 FOR. ECOL. MANAG. 576 (2018).

¹⁶ Santiago Espinosa et al., *When Roads Appear Jaguars Decline: Increased Access to an Amazonian Wilderness Area Reduces Potential for Jaguar Conservation*. 13 PLoS ONE 1, 1 3 January (2018):e0189740. <https://doi.org/10.1371/journal.pone.0189740>.

¹⁷ Silvio Marchini & David W. Macdonald, *Predicting Ranchers' Intention to Kill Jaguars: Case Studies in Amazonia and Pantanal*. 147 BIOL. CONSERV. 213 (2012).

¹⁸ John Polisar et al., *Jaguars, Pumas, Their Prey Base, and Cattle Ranching: Ecological Interpretations of a Management Problem*. 109 BIOL. CONSERV. 297 (2003).

¹⁹ Adrian Reuter et al., *Jaguar Hunting and Trafficking in Mesoamerica: Recent Observations*. WILDLIFE CONSERVATION SOCIETY, 33 (2018). <https://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/11708/The-Rising-Threat-to-Jaguars-from-the-Demand-for-Their-Body-Parts.aspx> (last visited 11 July 2019).

²⁰ Carlos A. Peres. 2001 *Synergistic Effects of Subsistence Hunting and Habitat Fragmentation on Amazonian Forest Vertebrates*. 15 CONSERV. BIOL. 1490 (2001); Agustín Paviolo et al., *A Biodiversity Hot Spot Losing its Top Predator; the Challenge of Jaguar Conservation in the Atlantic Forest of South America*. 6 SCI. REP. 1 (2016) DOI:10.1038/srep37147.

²¹ Luke Hunter. CARNIVORES OF THE WORLD (2nd ed. 2018).

²² Olsoy et al., *supra* note 17.

²³ John Polisar, *For Jaguars, We Aren't Bound to Repeat Past Mistakes*. Medium. WILDLIFE CONSERVATION SOCIETY. 6 December (2019) <https://medium.com/age-of-awareness/for-jaguars-we-arent-bound-to-repeat-past-mistakes-87e22f2e9309> (last visited 21 January 2020); Matthew C. Hansen et al., *High-Resolution Global Maps of 21st-Century Forest Cover Change*. 342 SCIENCE 850, 15 November (2013) Data available on-line from:

1.5 to 2.5 jaguars per 100km², the fires in the tri-national southwestern Amazon and adjacent biomes that burned in 2019 resulted in 300-500 jaguars lost in only one year.²⁴ Outside of a relatively low number of success stories, jaguars are declining, with habitat loss a major factor.

Agricultural and road expansion, habitat fragmentation, energy development and human encroachment have cascading negative effects on jaguar populations that reduces the prey base, with all the above factors elevating human-wildlife conflicts.²⁵ Although legal protections for jaguars exist in many countries, it is important to understand the extent to which illegal and legal habitat loss increases conditions for indirect killings, and how these can be prevented through a synergy of decentralized management, inter-sectoral cooperation and stakeholder engagement.²⁶

2.1.2. Prey Depletion

In the absence of other factors, jaguar density is related to accessible prey. Jaguar use an array of prey obtained on land, at the edge of waterbodies, and in shallow waters.²⁷ While jaguars collectively use 100 species across their range,²⁸ they tend to selectively feed on about 20 species in most study sites, including peccaries, capybara, large rodents, armadillos, deer, giant anteaters, coatis and caiman.²⁹

<http://earthenginepartners.appspot.com/science-2013-global-forest>; Daniel J. Zarin et al., *Can Carbon Emissions Drop by 50% in Five Years?* 22 GLOB. CHANGE BIOL. 1336 (2016) doi:10.1111/gcb.13153 Global Administrative Areas Database, version 3.6. Available at <http://gadm.org/>.

²⁴ Shreya Dasgupta, *Panthera: at Least 500 Jaguars Lost Their Lives or Habitat in Amazon Fires*. MONGABAY 25 September (2019) <https://intercontinentalcry.org/devastating-wild-fires-have-destroyed-nearly-1-million-hectares-in-bolivia/> (last visited 7 December 2020).

²⁵ Sanderson et al., *supra* note 1; de la Torre et al., *supra* note 1; Espinosa et al., *supra* note 18; Polisar et al., *supra* note 20.

²⁶ Convention on Biological Diversity, 5 June 1992, 1760 U.N.T.S. 79 Recommendations V/10 Ecosystem approach: further conceptual elaboration SBSTTA CoP Fifth Meeting, Montreal 31 January – 4 February 2000 <https://www.cbd.int/recommendation/sbstta/?id=7027> (last visited 3 March 2021)

²⁷ Matt W. Hayward et al., *Prey Preferences of the Jaguar Panthera onca Reflect the Post-Pleistocene Demise of Large Prey*. 3 FRONT. ECOL. EVOL. 148 (2016) <https://doi.org/10.3389/fevo.2015.00148>.

²⁸ Ronald M. Nowak, WALKER'S MAMMALS OF THE WORLD, VOLUME 1, at 831 (6th ed. 1999).

²⁹ Hayward et al., *supra* note 29.

Depletion of prey, whether due to habitat loss or overhunting is one of the major (even if hard to measure) threats to jaguar populations.³⁰ Locally low prey abundance and diversity may elevate rates of depredation on livestock, which can elevate, in turn, direct killing of jaguars.³¹ In the Ecuadorian Amazon, jaguar abundance in remote areas was 18 times higher away from road construction areas, the latter having drastically reduced peccary numbers due to market hunting.³² While jaguars might be explicitly protected in national laws, successfully addressing the challenges of comprehensive national and local regulations for game/prey species is an important consideration for maintaining the species. In some cases, locally sensitive regulations may be required to be effective, and as such, the refinement of functional game management can be a laborious yet worthwhile endeavor for maintaining jaguar populations.³³

2.1.3. Human-Jaguar Conflict

The killing of jaguars by ranchers and farmers related to livestock loss has been documented throughout the species range.³⁴ Some incidents are a direct response to losses of domestic livestock (cows, calves, pigs, sheep), but some are based upon distrust and antipathy.³⁵ Because most intolerance has a genesis in livestock losses attributed to jaguars, whether real, or perceived as such, much work has been done to

³⁰ Christopher Wolf & William J. Ripple, *Prey Depletion as a Threat to the World's Large Carnivores*. 3 ROYAL SOC. OPEN SCI. 160252 30 June (2016). <http://dx.doi.org/10.1098/rsos.160252>; Everton B. P. Miranda et al., *What are Jaguars Eating in a Half-Empty Forest? Insights from Diet in an Overhunted Caatina Reserve*. 99 J. MAMMAL. 724 (2018) doi: 10.1093/jmammal/gyy027.

³¹ Polisar et al., *supra* note 20.

³² Espinosa et al., *supra* note 18.

³³ Roan B. McNab et al, *Laying the Foundations: Distribution of Game and Jaguar Prey Species in Response to Subsistence Hunting in the Eastern Maya Biosphere Reserve*, in RESEARCH PERSPECTIVES ON THE WILD MAMMALS OF GUATEMALA 136-173, (Cristian Kraker Castañeda et al., eds, 2019).

³⁴ Alexandra Zimmermann et al., *Cattle Ranchers' Attitudes to Conflicts with Jaguars in the Pantanal of Brazil*. 39 ORYX 1 (2005); Marchini & Macdonald, *supra* note 19; Jillian Knox et al., *Jaguar Persecution Without "Conflict": Insights from Protected Territories in the Bolivian Amazon*. 7 FRONT. ECOL. EVOL. 494 (2019) Doi:10.3389/fevo.2019.00494.

³⁵ Zimmerman et al., *supra* note 36.

understand factors contributing to conflict.³⁶ The relationship between declared intentions to kill jaguars and past behavior of killing jaguars indicate a strong likelihood that a subset of ranchers will continue to engage in such behaviors in the future.³⁷ Some believe that killing jaguars may be acceptable or necessary when they recurrently kill cattle or pose a direct threat to humans.³⁸ Others believe improved livestock management would sufficiently reduce losses and jaguars should not be killed. Independent of that range of philosophies, ranchers and farmers do need productive and pragmatic solutions on how to reduce attacks on livestock and management options when the losses become recurrent. Methods to reduce the probability of jaguar attacks in livestock as a means to reduce jaguar mortality have been developed and promoted.³⁹ Research on what interventions change attitudes to retaliatory killing has also been conducted.⁴⁰ Some jaguars are killed either through accidental take or opportunistic hunting during chance encounters.⁴¹ In all of the above, if a market for jaguar parts exists, it represents an incentive to resolve human-jaguar conflict through killing rather than coexistence.⁴² Some level of human-jaguar conflict is inevitable, so the conservation goal is to reduce conflict and maximize coexistence. Even with that goal, because conflict-resolution can be challenging and

³⁶ Fernando Cesar Cascelli de Azevedo & Dennis L. Murray, *Evaluation of Potential Factors Predisposing Livestock to Predation by Jaguars*. 71 J. WILDL. MANAG. 2379 (2007); Marchini, *supra* note 19; Sandra M. Cavalcanti and Eric M. Gese, *Kill Rates and Predation Patterns of Jaguars (Panthera onca) in the Southern Pantanal, Brazil*. J. MAMMAL. 91:722–736 (2010); José R. Soto-Shoender and William M. Giuliano, *Predation on Livestock by Large Carnivores in the Tropical Lowlands of Guatemala*. 45 ORYX 561 (2011).

³⁷ Marchini & Macdonald, *supra* note 19.

³⁸ Yennie K. Bredin, *Local Perceptions of Jaguar Conservation and Environmental Justice in Goiás, Matto Grosso and Roraima States (Brazil)*, 13 GLOB. ECOL. EVOL. e00369 (2015).

³⁹ CONFLICTOS ENTRE FELINOS Y HUMANOS EN AMÉRICA LATINA. SERIE EDITORIAL FAUNA SILVESTRE NEOTROPICAL, (Carlos Castaño-Urbe. et al., eds. 2016); Rafael Hoogesteijn, *Manual Sobre os Problemas de Predação Causados por Onças-Pintadas y Onças Pardas em Fazendas de Gado*. WILDLIFE CONSERVATION SOCIETY (2015) <https://www.panthera.org/cms/sites/default/files/documents/JaguarDepredationManualPORTUGUESE.pdf> (last visited 15 December 2020); Laura Villalba et al., *Primeras Experiencias de Mitigación entre Ganaderos y Grandes Felinos en Estancias de Paraguay*, in CONFLICTOS ENTRE FELINOS Y HUMANOS EN AMÉRICA LATINA, 221-236 (Carlos Castaño-Urbe et al., eds, 2016).

⁴⁰ Silvio Marchini & David W. MacDonald, *Can School Children Influence Adults' Behavior toward Jaguars? Evidence of Intergenerational Learning in Education for Conservation* 49 AMBIO 912 (2019) <https://doi.org/10.1007/s13280-019-01230-w>

⁴¹ Kimberly Hickok, *Someone Just killed one of the Last Remaining Jaguars in the US*. LIVESCIENCE, June 28, 2018. <https://www.livescience.com/62949-arizona-jaguar-killed.html>.

⁴² Adrian Reuter et al., *supra* note 21; Pauline Verheij, *An Assessment of Wildlife Trafficking and Poaching in Bolivia and Suriname*. IUCN NL (2019).

because jaguar parts taken during control efforts may enter trade, jaguar conservation will benefit from more clarity on how laws govern jaguar take associated with livestock loss versus accidental take versus deliberate poaching.

2.1.4. Global and Local Trade in Body Parts

Commercial demand for jaguar skins peaked in the 1960s with an estimated 15,000 animals killed annually and 13,516 pelts entering the United States in 1968.⁴³ Actions at a global level, most notably the emergence of Convention on International Trade in Endangered Species of Wild Fauna and Flora,⁴⁴ were effective in reducing markets and demands, and contributed to stabilization and even some recovery in jaguar populations.⁴⁵ A recent re-emergence of international trade in jaguar parts, most notably teeth for jewelry and other parts for medicinal purposes,⁴⁶ combined with ongoing killing related to human-jaguar conflict and subsequent local and national trade of body parts obtained from human-jaguar conflict killings⁴⁷ as well as opportunistic killing to meet international market demands⁴⁸ emphasizes the importance of pragmatic functional legislation to govern local and national trade in jaguar parts.

3. Global Governance of Jaguar Conservation

⁴³ Nowak, *supra* note 30.

⁴⁴ Convention on International Trade in Endangered Species of Wild Flora and Fauna, 3 March 1973, 993 U.N.T.S. 243 (hereinafter CITES) <https://www.cites.org/eng/disc/parties/chronolo.php>, (last visited 08 February 2022). See section 3.1

⁴⁵ Wildlife Conservation Society, World Wildlife Fund y Panthera, *Memorias del Taller Internacional: Planificando la Conservación del Jaguar en la Amazonía*, (2016) Available at <https://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/9413/Will-the-Jaguar-Survive-Conservation-Groups-have-a-Plan.aspx>.

⁴⁶ Alexander Brackowski et al., The ayahuasca tourism boom: An undervalued demand driver for jaguar body parts? CONSERVATION SCIENCE AND PRACTICE, e126 (2019) <https://doi.org/10.1111/csp2.126>; Angela M. Nuñez & Enzo Aliaga-Rossell., *Jaguar fangs trafficked by Chinese in Bolivia*. 65 CAT NEWS, 50 (2017); Reuter, *supra* note 44.

⁴⁷ Reuter, *supra* note 2144; Wildlife Conservation Society, *Evidencia del Tráfico de Partes de Jaguar en la Amazonía Peruana* (2019) Available at: <https://peru.wcs.org/es-es/WCS Perú/publicaciones>.

⁴⁸ Melissa Arias et al., *Complex interactions between commercial and noncommercial drivers of illegal trade for a threatened felid*. ANIM. CONSERV. (2021) <https://doi.org/10.1111/acv.12683>; Thais Morcatty et al., *Illegal trade in wild cats and its link to Chinese-led development in Central and South America*. CONSERV. BIOL. (2020). <https://doi.org/10.1111/cobi.13498>

Jaguar protections fall under global conventions and national laws, though implementation of said protections depends heavily on national and subnational regulations. The two main global policies governing jaguar conservation are CITES, which entered into force 1 July 1975 with 10 ratifying countries, 184 parties as of 04 January 2022,⁴⁹ and the United Nations Convention on Biological Diversity (CBD), which entered into force in 29 December 1993 with 30 ratifying countries, 168 ratifying parties as of 01 January 2022.⁵⁰ To a lesser extent, the Convention on the Conservation of Migratory Species of Wild Animals, also known as the Bonn Convention, entered into force in 1983 with 15 ratifying countries, 132 parties as of 01 January 2021,⁵¹ and has implications for jaguars. Other environmental and non-environmental conventions apply to jaguars but are not discussed at length in this paper. For example, the Ramsar Convention on Wetlands⁵² serves to raise awareness of important wetlands especially those in which international cooperation could benefit species contained therein, notable wetlands in jaguar range are named (e.g., Bañados del Izozog y el río Parapetí). Other examples include the UN Convention against Transnational Organized Crime,⁵³ the UN Convention Against Corruption,⁵⁴ and the Inter-American Convention on Mutual Assistance in Criminal Matters⁵⁵ which are all relevant agreements for governments seeking to disrupt illegal trafficking of jaguar and harmonize associated penalties and cooperation across multiple countries.⁵⁶

⁴⁹ CITES, *supra* note 44

⁵⁰ CONVENTION ON BIOLOGICAL DIVERSITY, [hereinafter CBD] <https://www.cbd.int/> (last visited 8 February 2022).

⁵¹ CONVENTION ON CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS [hereinafter CMS] <https://www.cms.int/> (last visited 08 February 2022).

⁵² RAMSAR CONVENTION ON WETLANDS [hereinafter Ramsar] <https://www.ramsar.org/> (last visited 09 February 2022).

⁵³ UN General Assembly, United Nations Convention against Transnational Organized Crime, 8 January 2001 A/RES/55/25.

⁵⁴ UN General Assembly, United Nations Convention Against Corruption, 31 October 2003, A/58/422

⁵⁵ Inter-American Convention on Mutual Legal Assistance in Criminal Matters (23 May 1992).

⁵⁶ See American Bar Association. STRENGTHENING THE CAPACITY AND COMMITMENT TO INVESTIGATE, PROSECUTE, AND ADJUDICATE WILDLIFE TRAFFICKING CRIMES IN LATIN AMERICA. Wildlife Conservation Society. (2020).

3.1. Convention on International Trade in Endangered Species of Wild Fauna and Flora

CITES regulates international commercial and non-commercial trade in listed species of animals and plants including parts.⁵⁷ CITES mandates that ratifying countries approve and implement regulation to prevent international trade in specimens of wild animals and plants that threatens their survival, and categorizes species into appropriate appendices based on their global populations. The appendices include Appendix I - threatened with extinction, with trade permitted only in exceptional circumstances, Appendix II - not threatened but trade must be controlled to avoid compromising species survival, and Appendix III - the species is protected in at least one country and trade may be permitted with the appropriate documentation. The jaguar has been listed as a CITES Appendix I species since 1 July 1975, prohibiting commercial international trade of live animals, parts, or products. This listing required countries to stop the hide trade, aiming for the potential recovery of populations. Through protected area law enforcement and integrated landscape management, in some places, jaguar populations recovered and became stable.⁵⁸ Jaguars are even increasing in certain areas.⁵⁹ However, outside of a relatively small number of success stories, the species is in an overall decline and range retraction.⁶⁰

Despite CITES, recent evidence suggests commercialization of jaguar parts for ornaments, jewelry, and medicinal purposes has continued.⁶¹ In response to that evidence, CITES commissioned a study on illegal trade in jaguars to be presented at

⁵⁷ CITES *supra* note 44.

⁵⁸ de la Torre et al., *supra* note 1.

⁵⁹ de la Torre et al., *supra* note 1.

⁶⁰ See section 2 above.

⁶¹ Reuter, *supra* note 44; Verheij, *supra* note 44; Braczkowski et al.; *supra* note 48; Nuñez & Aliaga-Rossell *supra* note 48.

the Seventy-fourth CITES Standing Committee meeting.⁶² Notably in the same set of decisions⁶³ CITES recognized “the jaguar (*Panthera onca*) as the flagship species of its range countries so the protection and conservation of the species and its habitat becomes a priority,”⁶⁴ and recommended that range countries “urgently adopt comprehensive legislation and enforcement controls aimed at eliminating the poaching of jaguars (*Panthera onca*) and illegal trade in their parts, and derivatives, including online sale of specimens.”⁶⁵

Like many other international instruments, the strength of CITES relies on cooperation among scientific and conservation communities⁶⁶ and countries’ willingness to enact and enforce these laws internally. The convention lacks an enforcement mechanism for countries not following its guidelines: the closest provision is Article XIII, which foresees a process through which the CITES Secretariat may communicate with countries found to be in breach of their commitments⁶⁷ to require information that can later be presented to the Conference of the Parties for recommendations. Nonetheless, adherence to calls for cooperation with relevant partners⁶⁸ and fulfillment of CoP 18, Decisions 18.251 to 18.253 has the potential to elevate range wide attention to the threats that jaguars face, while also

⁶² CITES 2021. The illegal trade in jaguars. Version: 05/07/2021, https://cites.org/sites/default/files/articles/CITES_Study_on_Illegal_Trade_in_Jaguars%20.pdf (last visited 10 February 2022); CITES. 2019. Decisions of the Conference of Parties to CITES in effect after the 18th meeting [hereinafter CoP 18], 18.251 (a) and (b) <https://cites.org/sites/default/files/eng/dec/valid18/E18-Dec.pdf> (last visited 10 February 2022); CITES. Seventy-fourth meeting of the Standing Committee Lyon France 7-11 March 2022. SC75 Doc. 75 <https://cites.org/sites/default/files/eng/com/sc/74/E-SC74-75.pdf> (last visited 10 February 2022)

⁶³ CITES CoP 18, 18.251-18.253.

⁶⁴ CITES CoP 18, 18.252 (c)

⁶⁵ *Id.*, at (d).

⁶⁶ CITES. Seventy-third meeting of the Standing Committee Online, 5-7 May 2021. SC73 Doc. 13. <https://cites.org/sites/default/files/eng/com/sc/73/E-SC73-13.pdf> (last visited 10 February 2022)

⁶⁷ CITES, *supra* note 44.

⁶⁸ CITES. 2022. Seventy-fourth meeting of the Standing Committee Lyon (France), 7-11 March 2022, SC74 Doc. 75, Species specific matters, Jaguars (*Panthera onca*): Report of the Secretariat, 19.

promoting increased efforts to counter those threats, including more effective legal protection for jaguars in each range country.

3.2 Convention on Biological Diversity

The Convention on Biological Diversity is an international legal instrument for the conservation and sustainable use of biological diversity.⁶⁹ The CBD's Strategic Plan for Biodiversity 2011-2020 includes the Aichi Biodiversity Targets which provide an overarching framework under which countries should revise and update national biodiversity strategies and action plans. The Targets relevant to jaguar conservation include, among others, integrating biodiversity values into national and local efforts, reducing the loss of habitats, improving sustainable management of agriculture and forestry, and improving the protection status of threatened species. The CoP 2018 CBD provided the platform for multi-country collaboration on the 2030 Jaguar Conservation Roadmap.⁷⁰ Of jaguar range countries, only the United States is a non-party to the CBD, all others acceded between December 1993 and February 1996.⁷¹

3.3. Convention on Conservation of Migratory Species of Wild Animals

The Convention on Conservation of Migratory Species of Wild Animals (CMS) or the Bonn Convention is an environmental treaty of the United Nations.⁷² Its purpose is to provide a global platform for the conservation and sustainable use of migratory animals and their habitats. Notably, a species is considered “migratory” when a significant proportion of the members cyclically and predictably cross one or more national jurisdictional boundaries. In February 2020, *Panthera onca* was added to Appendix I (Endangered Migratory Species) of the CMS because jaguars move across

⁶⁹ CBD, *supra* note 50

⁷⁰ _____ 2018. Jaguar 2030 Conservation Roadmap for the Americas. www.internationaljaguarday.org (last visited 10 February 2022).

⁷¹ CBD *supra* note 50.

⁷² CMS *supra* note 51

international boundaries within their habitat and are in danger of extinction throughout all or a significant portion of their range.⁷³ Their listing in Appendix II allows for the possibility of subsidiary instruments or agreements between range states to conserve jaguars.⁷⁴ On this same date, the parties agreed to mitigate the impacts of linear infrastructure (roads and energy transmission lines) on migratory species, and to investigate possible trade in CMS Appendix I species and the implications for their conservation status;⁷⁵ two measures that would contribute to jaguar conservation efforts. These may have implications going forward on ratifying parties' national laws, thus far 10 countries in jaguar range are parties to CMS.⁷⁶

In 2021, CITES articulated a clear strategy to cooperate and build synergies with CMS under the CMS-CITES Joint Work Program.⁷⁷ The CITES-CMS synergy contains substantial potential to elevate national level commitments and actions to addressing the threats confronting jaguar populations as well as the possibilities for promoting updated and regionally aligned legislation and regulations for jaguar conservation.

3.4 The 2030 Jaguar Conservation Initiative

The 2030 Jaguar Coordinating Committee, which includes the UNDP, UNEP, and CITES and CMS Secretariats, as well as international conservation non-governmental (NGO) partners, was established to operationalize the jaguar conservation priorities

⁷³ SUMMARY OF THE 13TH MEETING OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON MIGRATORY SPECIES OF WILD ANIMALS [hereinafter CMS COP13], <https://enb.iisd.org/vol18/enb1883e.html> (last visited 30 July 2020).

⁷⁴ Id.

⁷⁵ CMS, *supra* note 51.

⁷⁶ Parties and Range States. CMS. <https://www.cms.int/en/parties-range-states> (last visited 23 April 2021); Argentina, Bolivia, Brazil, Costa Rica, Ecuador, French Guiana, Honduras, Panama, Paraguay, and Peru.

⁷⁷ CITES 2021. Seventy-third meeting of the Standing Committee Online, 5-7 May 2021. SC73 Doc. 13 (Annex 1, B5). <https://cites.org/sites/default/files/eng/com/sc/73/E-SC73-13.pdf> (last visited 10 February 2022).

set forth in the Jaguar 2030 Statement.⁷⁸ Priorities include increasing awareness and facilitating change among stakeholders, scaling up of successful jaguar conservation tools, and encouraging implementation by all jaguar range states. The Committee works with range countries on the adoption of the 2030 Jaguar Conservation Road Map, and with national commitments to achieve effective conservation of jaguars, their habitat, and the ecosystem services they provide on a grand scale.⁷⁹

4. National Laws Governing Jaguar Conservation

While it is important to note which global conventions protect species and biodiversity (and hence, jaguars) and that those fora play an important role in coordinating conservation across boundaries, national level laws are the tools for implementing those conventions locally. CITES entered into force in 1975, before most countries in Latin America were implementing their own protections. According to Swank and Teer, by 1987, the jaguar was fully protected at the national level across most of its range and efforts to explicitly protect jaguars were underway in Belize, Honduras, Panama and Mexico.⁸⁰ By 1996, jaguar hunting was prohibited in Argentina, Brazil, Colombia, parts of French Guiana, Honduras, Nicaragua, Panama, Paraguay, Suriname, United States, Uruguay and Venezuela.⁸¹ At that time, Brazil, Costa Rica, Guatemala, Mexico and Peru had hunting restricted to “problem animals” while Guyana and Ecuador provided no legal protections.⁸² These early reviews of existing laws at the time lacked clarity about the structure of the laws, and the authors

⁷⁸ UNDP *supra* note 3; *supra* note 70; the current Coordinating Committee membership includes the United Nations Development Program (UNDP), the United Nations Environmental Program (UNEP), the United Nations Office on Drugs and Crime (UNODC), the CITES Secretariat, the CMS Secretariat, international conservation organizations, including Panthera, the Wildlife Conservation Society, and the World Wildlife Fund, and representatives of range countries.

⁷⁹ UNDP *supra* note 70

⁸⁰ Wendell G. Swank & James G. Teer, *Status of the Jaguar – 1987*, 23 ORYX 1, 14 (1989).

⁸¹ Kristin Nowell & Peter Jackson, *Wild Cats. Status Survey and Conservation Action Plan*. IUCN/SSC CAT SPECIALIST GROUP (1996).

⁸² *Id.*

indicated that enforcement was nearly nonexistent.⁸³ Regulations that flow from laws have the added ability to specify administrative and criminal penalties that can improve compliance (if implemented). To better understand the governance of jaguar throughout its range, the management options for conflict, regulations against local trade within a country and international trade across borders, we have compiled a detailed review of the national laws and legal mechanisms in all jaguar range countries. While knowing what structures are in place can target policy change efforts and provide guidance for legal recourse, the existence legal provisions does not equal good management; a separate analysis would need to evaluate management within each country.

4.1. Review of National Laws

Between January 2019 and January 2021, we collected all National Laws with direct or indirect protections for jaguars. We employed three steps for our review. First, we categorized each law within a framework adapted from the Kelsen-Merkl pyramid, a fundamental component of legal studies.⁸⁴ Second, we examined each country for evidence of specific characteristics identified in the literature as important for improving protections for jaguar and enforcement of the laws. Last, we reflected on the potential opportunities for strengthening the legal framework across jaguar range countries.

4.1.1. Framework and criteria for legal review

The idea that a Constitution sets the precedence or norms for laws within a nation stems, in part, from Kelsen's Pure Theory of Law and Merkl's theory of the

⁸³ Swank & Teer, *supra* note 80.

⁸⁴ Thomas Olechowski, 2018. *Legal Hierarchies in the Works of Hans Kelsen and Adolf Julius Merkl*, In RECONSIDERING CONSTITUTIONAL FORMATION II DECISIVE CONSTITUTIONAL NORMATIVITY. STUDIES IN THE HISTORY OF LAW AND JUSTICE, 12, 353-362 (Ulrike Müßig ed., 2018) https://doi.org/10.1007/978-3-319-73037-0_9 (last visited 12 December 2020).

hierarchical structure of the legal order.⁸⁵ This hierarchical structure suggests that proclamations in a Constitution create a set of norms at the highest level within a country, providing the grounds for validity of the entire country's legal system. Laws created by legislative bodies should conform to these norms and not contradict each other. Similarly, all regulations created by governing bodies within the government should be consistent with higher level rules.⁸⁶ Although scholars have debated the nuances of the underlying theories⁸⁷ the basic framework provides a simple way for analyzing how laws can be improved to better align across different legal levels within a country and can help illustrate where additional theories of law might be applied for a future more in-depth analysis of individual laws and regulations.

For this review, we adapted the pyramid structure often associated with and derived from these theories to provide a fundamental understanding of how national laws related to jaguar protections can be categorized in a legal review of laws protecting jaguars (Figure 1).

At the top, the Constitutional Level includes the provisions articulated in a country's Constitution. Each country's constitutional choices should cascade into the development of legal-level norms and regulations. The language used in the Constitution is often vague, and its implementation depends on the regulations that stem from it. The way in which constitutions are interpreted and evolve depends on whether a country applies a civil law or a common law approach.⁸⁸ In turn, laws are

⁸⁵ *Id.*; see also Michael Clegg et al. *The hierarchy of laws: Understanding and implementing the legal frameworks that govern elections*. INTERNATIONAL FOUNDATION FOR ELECTORAL SYSTEMS (2016).

⁸⁶ *Id.*; see also: Ignacio De Otto, DERECHO CONSTITUCIONAL: SISTEMA DE FUENTES, 79 (Ariel Derecho, ed. 1987).

⁸⁷ Juan Carlos Riofrio, *Kelsen, the New Inverted Pyramid and the Classics of Constitutional Law*, 7 RUSS. LAW J. 2, 87 (2019); Dhananjai Shivakumar, *The Pure Theory as Ideal Type: Defending Kelsen on the Basis of Weberian Methodology*, 105 YALE LAW J. 5, 1383 (1996).

⁸⁸ THE COMMON LAW AND CIVIL LAW TRADITIONS (2010)

<https://pdfs.semanticscholar.org/54f2/129c3b1f10ebaaa1b087a74200e6b01874c7.pdf>; Joseph Dainow, *The Civil Law and the Common Law: Some Points of Comparison*, 15 AM. J. COMP. LAW 3, 419 (1967).

to be interpreted in accordance with the Constitution and can be challenged against their compliance with the country's higher level, constitutional provisions.⁸⁹ This process of constitutional control is specific to each country, and relies on legal action taken against local regulations with the purpose of maintaining coherence between higher and lower level provisions. This means that, even though citizens are unlikely to find specific text on conservation, wildlife or endangered species, the way the environment is portrayed in the Constitution shall guide the contents and implementation of lower ranked norms, and its lack of coherence can be controlled.

The Legal Level usually includes those laws approved by a legislative body in the form of theme-specific codes, one of the main characteristics of the Civil Law system. As such, our review encompassed laws related to criminal prosecution (Criminal Codes), conservation, forestry and wildlife, hunting and animal wellbeing. Many of these include a list of administrative offenses (infractions) enforceable by the countries' wildlife authorities; and the criminal codes contain a list of criminal conducts punishable before criminal courts.

In turn, presidential decrees which can bypass legislative approval; ministerial decrees, regulations or normative instructions approved by a sectorial authority such as a government ministry or wildlife authority (environmental ministries, forestry agencies, agricultural entities) develop the principles contained in theme-specific laws thus are lower in the legislative pyramid. They fall under the Infra-legal level for the purposes of this article (Figure 1). This level might include presidential decrees conferring protected status (as in Venezuela) which then applies to all ministries or

⁸⁹ De Otto, *supra* note 86.

government offices,⁹⁰ resolutions for legally binding management plans (as in Bolivia) executed by a ministry or subset of ministries,⁹¹ decrees or regulations for wildlife laws (as in Guatemala) for a specific ministry to follow.⁹² The implementation of Legal Level and Infra-Legal level laws and regulations depends on what specific regulations dictate, how much funding is allocated within a budget for specific activities, and the personnel available and trained to implement the laws and regulations.

Aside from legally binding provisions, we have included a below-legal level in the adapted pyramid to include management plans, programs, and technical reports sometimes created by the management authority (e.g., Guide de Coexistence Homme-Jaguar from French Guiana)⁹³ but also often created and in some cases funded through cooperation with a non-governmental entity such as a conservation NGOs or other similar groups (e.g, Plan Nacional para la Conservación del Jaguar (*Panthera onca*); Promoviendo la convivencia Comunidad – Jaguar).⁹⁴

Typically, these plans or guidelines have not been formally approved by a law or regulation. Despite the lack of formal approval, implementation of such ‘informal’ management plans are often achieved with dedicated funding, specific procedures and outside support to train officials on the ground, who can follow and implement the

⁹⁰ Presidential Decrees may be listed in Legal level (see Clegg *supra* note 85) or Infra-legal level (generally, this may vary by country depending on authorities given by the Constitution <https://www.nyulawglobal.org/globalex/#>); for the purposes of this paper we include them as infra-legal as they do not require elected officials to agree and pass a law and thus we consider them more prone to the vagaries of one individual in a position of power.

⁹¹ Resolución administrativa VMABCCGDF N° 049-20, 20 October 2020 (Bolivia);

⁹² Resolución de Secretaría Ejecutiva de CONAP SC. No. 01/2009 02-03-2009 Diario De Centro América N° 17 29-06-2009 (Guatemala).

⁹³ Rachel Berzins, *Guide de Coexistence Homme-Jaguar*, OFFICE NATIONAL DE LA CHASSE ET DE LA FAUNE SAUVAGE (2017).

⁹⁴ ICF. PLAN NACIONAL PARA LA CONSERVACIÓN DEL JAGUAR (*PANTHERA ONCA*); PROMOVRIENDO LA CONVIVENCIA COMUNIDAD – JAGUAR Departamento de Vida Silvestre/ Instituto Nacional de Conservación y Desarrollo Forestal, Áreas protegidas y Vida Silvestre- Proyecto Ecosistemas- Fundación Panthera. (2011) (Honduras).

plans or recommendations. In some cases, plans and reporting procedures may be too demanding or require too many bureaucratic procedures to be followed, and are thus, in a pragmatic sense, not functional. For management plans listed under this category, implementation may or may not be formally supported by the Government, and noncompliance cannot be challenged in court. However, implementation may be informally supported by external agencies; in some cases, that broader support may make these plans more effective than the actual regulations.

By formally adopting a regulation, the State obliges itself publicly to comply with it; the regulation becomes legally binding. Government entities may engage in research, partially fund studies or publish, present and engage in the distribution of scientific studies and management plans. However, as long as these are not approved by a legal instrument, the State is not obliging itself to comply with them. Public officers may use non-binding documents to inform their decisions (including administrative and criminal penalties), but they are not required to. Similarly, if regulations containing endangered species lists or management plans are outdated, even if newer versions exist but are unapproved, the outdated but approved versions would be the only legally binding documents.

INSERT FIGURE 1 ABOUT HERE

With the pyramid as a guiding framework we categorized each country's relevant legal instruments into one of the four levels. We then evaluated each set of country legal instruments for specific characteristics. We determined these characteristics based on a review of literature, previous work examining wildlife laws and expert input from wildlife biologists and lawyers over the course of developing this

manuscript. The specific characteristics are summarized in Table 1. The results of our review are summarized in Table 2.

INSERT TABLE 1 ABOUT HERE

4.2. Results of the Legal Review

The results of this analysis encompass four components: 1) a list of legal documents supporting our analysis (Appendix I), 2) country summaries containing details on specific legal components based on the framework (Appendix II), 3) a summary table containing the results of the legal review of jaguar laws for the 19 jaguar range countries (Table 2), and 4) a map showing the presence of formal legal structures by country (Figure 2).

4.2.1. Country summaries

We compiled 19 country summaries (Appendix II). Each summary details the components of the legal framework relevant to environmental or wildlife protection. These are not an exhaustive review of laws and importantly they cover National Laws with only limited reference to state or provincial laws. Additional thorough analyses would be required within each country to understand the local laws as well as implementation of National and/or local laws. From the summaries we highlight key legal components in Table 2 and describe our findings below.

4.2.1.1. Constitutional Review. Across jaguar range only two countries, Belize and the United States, use common law while Guyana uses a mix of common and civil law. The rest of jaguar range states have a civil law influence, which means that their contents are *codified* – arranged in a system of comprehensive and continuously updated legal codes that outline those matters that can be brought to court. Judges in the civil law tradition, therefore, work within an established framework. Common law is generally *uncodified*, making judicial interpretation more precedent-setting than the decisions of legislators and administrative authorities.⁹⁵

⁹⁵ No author, *supra* note 88.

Although the majority of countries share the same civil law influence, countries within jaguar range have adopted diverse constitutional provisions with regards to the environment. Analyzing these provides insight into the different values that countries uphold when legislating on specific matters affecting natural resources. Moreover, these trends are oftentimes a product of the dominant political and economic trends at the time these constitutions were approved. Of note, the U.S. Constitution is the longest standing constitution across jaguar range. Other countries, such as Nicaragua, have adopted new constitutions multiple times in recent history.

We identified two major environmental provisions within the constitutions of jaguar range countries: (i) Right to a healthy environment and (ii) Rights of Mother Earth. All countries except the United States have either a Human Health Rights alone or with a Rights of Mother Earth provision in the constitution which enables protection of wildlife/jaguars legislation. The United States relies on the Commerce Provision in the U.S. Constitution as the enabling provision for the U.S. Endangered Species Act.⁹⁶

Those countries recognizing a right to a healthy environment countries understand the environment as a means to an end, namely the role of natural resources as a guarantee for human wellbeing. These countries generally use the terminology: “right to a healthy and well-balanced environment,” which was first approved as Article 11 of the Protocol of San Salvador.⁹⁷ The language has been ratified by all countries in

⁹⁶ Meyer R. March 29, 2017. How the U.S. Protects the Environment from Nixon to Trump: A curious person’s guide to the laws that keep the air clean and the water pure. The Atlantic. <https://www.theatlantic.com/science/archive/2017/03/how-the-epa-and-us-environmental-law-works-a-civics-guide-pruitt-trump/521001/> (last visited 8 January 2020).

⁹⁷ The Additional Protocol to the American Convention on Human Rights in the area of Economic, Social and Cultural Rights (Protocol of San Salvador), 1988. San Salvador Treaty Signatories and Ratifications can be found in: <https://www.oas.org/juridico/english/sigs/a-52.html>

jaguar range except for Belize, Guyana and the United States. Under this provision, the environment contributes to guaranteeing basic human rights and achieving the accomplishment of certain objectives related to human development that can range from economic policies to achieving a particular standard of living.⁹⁸

The Rights of Mother Earth category perceives the environment as a subject worthy of rights, in a similar way in which humans have rights. The “environment” is not just a simple word as it constitutes an entity that provides every natural resource that is necessary for humans to survive. The Bolivian Constitution defines Mother Earth as the dynamic living system conformed by the indivisible community of all life systems and living beings, which are interrelated, interdependent and complementary, and share a common destiny,⁹⁹ this provision’s legal development¹⁰⁰ goes further and declares its right to life, life diversity and restoration. The constitutions of Bolivia, Ecuador, and Nicaragua contain this provision. Some of these nations even provide a special denomination for “mother nature” or “Pachamama” a word that finds its origins in the Quechua language adopted by the Inca Empire.

Aside from the broad provisions, another constitutional trend that may influence jaguar laws is the provision that recognizes every citizen’s ability to start a legal action in the interest of the environment when environmental damage has been verified. Argentina, Bolivia, Brazil, Ecuador, and Paraguay provide for this right.

Stemming from systems of government where the acts of agencies and officials are

⁹⁸ See *Comunidades indígenas miembros de la Asociación Lhaka Honbat (Nuestra Tierra) v. Argentina* (Decision), 6 February 2020, § 203. https://www.corteidh.or.cr/docs/casos/articulos/seriec_400_esp.pdf (in a historical ruling the Interamerican Court of Human Rights has referred to the right to a healthy environment as an autonomous right, fundamental to human existence. It stated that the protection of nature should not be restricted to its utility to human beings, but extended in recognition of its importance to other beings with which we share our planet).

⁹⁹ CONSTITUCIÓN POLÍTICA DEL ESTADO PLURINACIONAL DE BOLIVIA [2009], art. 5.1

¹⁰⁰ Ley de Derechos de la Madre Tierra, Ley N° 071 del 21 diciembre del 2010. Gaceta Oficial del Estado Plurinacional de Bolivia 12-22-2010.

subject to the principle of legality, that is, where there is no crime and no punishment without a law, these types of procedures are made available to interested persons to test the legality of governmental action and to have an appropriate remedy when the act in question fails to pass the test.¹⁰¹ Notably, Bolivia established a high-ranked court that acknowledges environmental matters¹⁰² and Paraguay explicitly recognizes the term “ecological crime” worthy of reconstitution and indemnification.¹⁰³

4.2.1.2. Legal and infra-legal results. Brazil, Costa Rica, Ecuador, Peru and the United States ratified CITES within 2 years of its conception. By 1991, with Mexico’s accession, all jaguar range countries had ratified CITES. Thirteen countries have officially approved endangered species lists that include jaguar.¹⁰⁴ In Suriname, the jaguar is among six species of cat protected within the hunting law but this is not an official endangered species list.¹⁰⁵ Nicaragua includes the jaguar on a list that indefinitely bans hunting; Bolivia, Honduras, and French Guiana all have lists that either ban hunting, trade or both but are not officially approved endangered species lists. Several countries indicate the need to update lists periodically (e.g., every 3 or 5 years). Ecuador recognizes it may become urgent to update a list and leaves open the possibility for experts to contact authorities and make changes prior to the end of the 5-year period.¹⁰⁶ There are legal-level national jaguar specific laws in Argentina¹⁰⁷ and Paraguay.¹⁰⁸ Argentina, Bolivia, Brazil, and Ecuador have government approved

¹⁰¹ John H. Merryman & Rogelio Pérez-Perdomo, *THE CIVIL LAW TRADITION: AN INTRODUCTION TO THE LEGAL SYSTEMS OF EUROPE AND LATIN AMERICA* (4th ed, 2019).

¹⁰² CONSTITUCIÓN POLÍTICA DEL ESTADO PLURINACIONAL DE BOLIVIA [2009], ch. 3, art 186 (Establishes the Agri-Environmental Tribunal (Tribunal Agroambiental). It is ranked as high as the Supreme Justice Tribunal of the country, and acknowledges claims related to natural resources, wildlife among them).

¹⁰³ CONSTITUCIÓN DE LA REPÚBLICA DEL PARAGUAY [1992], § II, art. 8 (Coins the term (delito ecológico) and provides it must be defined and sanctioned by law).

¹⁰⁴ See Appendix II, Country Summaries.

¹⁰⁵ Jachtbesluit 2002 - Hunting Decree (S.B. 2002 N° 116) 27 December 2002 (Suriname).

¹⁰⁶ Acuerdo Ministerial No. DM-2020-069 Ministro del Ambiente 23-07-2019, disposiciones 2 (Ecuador).

¹⁰⁷ Ley 25.463 (2001) Boletín Oficial del 13-09-2001, N° 29731 at 6 (Argentina).

¹⁰⁸ Ley N° 5.302 (2014) Conservación de la Panthera onca 13-10-2014 (Paraguay).

management plans;¹⁰⁹ the U.S. has a government-approved recovery plan however it is not legally binding.¹¹⁰ Importantly, Paraguay,¹¹¹ Honduras,¹¹² Mexico,¹¹³ and Panama¹¹⁴ have national plans for jaguars created by or in consultation with government staff and in some cases implementation is underway; these plans are not yet legally binding as government approval has not been secured through a decree, resolution, law or other official mechanism. Seven countries have regulations applicable to cases of human-jaguar conflict, aimed at preventing harm to humans and/or property, including Argentina, Belize, Brazil, Costa Rica, Paraguay, Peru, and Suriname. In French Guiana, Honduras, Mexico, Peru the legislation as worded could allow for sport or trophy hunting of jaguars, in some cases the quota would be zero (e.g., French Guiana). No countries within jaguar range in Latin America expressly forbid subsistence hunting, but some countries restrict the hunting of any endangered species listed in country lists and/or CITES (e.g., Belize, Bolivia, Costa Rica, Ecuador, and Honduras). Brazil, French Guiana, and Guyana, and Peru have legal language that could allow for subsistence hunting of jaguars to be carried out within the limits of the law as written.¹¹⁵ Notably, Panama adds additional penalties for those who fraudulently claim to be subsistence hunting.¹¹⁶ Every country has administrative and criminal penalties for hunting and trade in the legal or infra-legal level. Some

¹⁰⁹ Resolución 149-E/2017 Ministerio de Ambiente y Desarrollo Sustentable, Boletín Nacional 28-03-2017 (Argentina); Bolivia *supra* note 91; Portaria N° 63, 9 June 2014, Diário Oficial Da União N° 116, 20-06-2014 and Portaria N° 612, 22 Junho (2018) Diário Oficial Da União N° 121 26-06-2018, p5 (Brazil); Acuerdo Ministerial N° 114. Registro Oficial Edición Especial N° 982 28 March 2017 (Ecuador);

¹¹⁰ *Jaguar Recovery Plan (Panthera onca)*. U.S. FISH AND WILDLIFE SERVICE (2018). See FRIENDS OF THE WILD SWAN, INC. v. DIR. OF THE U.S. FISH & WILDLIFE SERV., N° 17-35572 (9th Cir. Aug. 22, 2018).

¹¹¹ Secretaría del Ambiente, Wildlife Conservation Society Paraguay & Itaipu Binacional, PLAN DE MANEJO DE LA PANTHERA ONCA, PARAGUAY 2017-2026. 1era. Edición. (2016).

¹¹² ICF. PLAN NACIONAL PARA LA CONSERVACIÓN DEL JAGUAR (*PANTHERA ONCA*); PROMOVRIENDO LA CONVIVENCIA COMUNIDAD – JAGUAR Departamento de Vida Silvestre/ Instituto Nacional de Conservación y Desarrollo Forestal, Áreas protegidas y Vida Silvestre- Proyecto Ecosistemas- Fundación Panthera. (2011) (Honduras).

¹¹³ Secretaría de Medio Ambiente y Recursos Naturales & Comisión Nacional de Áreas Naturales Protegidas. PROGRAMA DE ACCIÓN PARA LA CONSERVACIÓN DE LA ESPECIE: JAGUAR (*PANTHERA ONCA*). Gobierno Federal (2009).

¹¹⁴ Departamento de Biodiversidad y Silvestre. PLAN DE ACCIÓN PARA LA CONSERVACIÓN DE LOS JAGUARES EN PANAMÁ. Gobierno Nacional & Autoridad Nacional del Ambiente (2011).

¹¹⁵ See country summaries for more details of this interpretation.

¹¹⁶ Ley N° 24/1995, art. 62. Gaceta Oficial N° 22.801 09-06-1995, p1 (Panama).

penalties are tied to older laws (e.g., Honduras) and in some cases we were unable to find the resolutions or laws to update such fines, thus the penalties appear quite small.¹¹⁷ Ascertaining whether the level of fine imposed provides a sufficient deterrent is beyond the scope of this work but an important need for future efforts.

INSERT TABLE 2 ABOUT HERE

¹¹⁷ See country summaries for penalties. All currency exchanges based on rates as of 1 January 2021.

4.1.1 Mapping the legal gaps

We used the table to calculate a score that illustrates the presence of formal legal structures for conservation of jaguars in each country. As mentioned before, the existence of these structures does not equate to adequate conservation of the species; but creates guidance for government officials to follow, and provides the opportunity for conservationists to challenge poor regulations and deficient species management against higher legally-binding standards that are contained in legal level provisions.

Countries received 1 point for having each of the following criteria: government approved endangered species lists, jaguar specific legal level laws, government approved management plans, government approved human-wildlife conflict regulations, administrative penalties for hunting, criminal penalties for hunting, administrative penalties for trade, and criminal penalties for trade. We summed the results by country and mapped the results to provide a visual for identifying countries with potentially important legal gaps for protecting jaguars (Figure 2).

INSERT FIGURE 2 ABOUT HERE

5. Implications for jaguar conservation practice

Based on the range-wide review of national laws governing jaguar protection and wildlife hunting, most countries have laws in place that protect jaguars, and despite variation in their current structure, the primary limitation has been implementation and the extent to which management is legally binding. This could have a direct linear relationship to public commitment and investments. There is a delicate balance when determining the legal level at which to advocate for jaguar protections. Binding laws need to be either passed directly by Congress, by a delegation of powers to the Executive branch of government or by agreement

among multiple Ministries. Higher level laws are more robust, less vulnerable to change and most likely to be widely known. However, they are also harder to update and less likely to allow for the detail needed in a management plan or for conflict resolution. By contrast, infra-legal level is usually approved by a single entity, e.g., a Ministry. This level allows for specificity and mutability. Highly implementable, these legal structures may be more obscure to the public than legal-level laws, sometimes only known by the operators on the ground. The fact that they are formally approved makes them binding to the government. Infra-legal legislation is more adaptable and allows for textual updates without requiring consensus between multiple entities. Such flexibility works well for regulations such as management plans and endangered species lists, but also makes them more vulnerable to change in ways that may not benefit jaguars. By way of example, hunting requirements are often contained in legal level laws, but their applicability is determined by lists of endangered species approved by infra-legal level regulations. Legal level laws contain the criteria but lower level regulations compile which species are subject to said criteria. Given the mutability of lower ranked regulations, these lists are easy to update but could also be modified easily by decisions of a single entity. In this sense, we advise that when there is a particular species worthy of special protection (i.e., jaguars), their status is established in a legal level law. That said, we present several recommendations that should improve the legal frameworks for jaguars within jaguar range states:

5.1 Adopt laws specific to jaguar conservation

Jaguar specific laws will be more impactful than laws that cover general environmental and/or conservation abuses. We recommend that countries adopt national level laws that are specific to the protection of jaguars, rather than refer to umbrella wildlife regulations covering many species with potentially contrasting requirements. Developing jaguar specific laws can orient decision makers to consider national threats to the species and prioritize

targeted actions, through formal legal structures aimed specifically at jaguar conservation.

With such national laws, states and regions could then approve regulations that consider the nuances of jaguar conservation in their territories.

In the absence of jaguar specific laws, the existing frameworks may present loopholes that allow for unwanted behaviors. As an example, most countries would never grant a hunting permit for wild jaguars, but there are gaps in Peruvian legislation that could allow for hunting of jaguars within private reserves (*coto de caza*) or state concessions. We did not find a case in which this happened, but encourage countries to adopt similar provisions as the Colombia case, where *cotos de caza* were banned entirely, or Argentina, where hunting of jaguars is vetoed nationally.

While jaguar-specific laws are not essential to prosecute crimes related to hunting and trading of jaguars, their absence requires authorities (park rangers, government officials, prosecutors and judges) to be willing to go beyond their legal mandate and creatively interpret existing rules in a way that allow for prosecution and application of penalties. In 2018, Bolivian courts criminally sanctioned the trafficking of 185 jaguar fangs in Santa Cruz; two foreigners were sentenced to incarceration of three and four years. In the absence of a specific criminal type that made this behavior illegal, the conduct was sanctioned as a crime leading to the destruction or deterioration of government assets and against national patrimony.¹¹⁸

Thus, we assert that there is a need to craft and adopt, at a national level, laws that are specific to jaguars and jaguar-habitat conservation which recognize the intrinsic value of Nature and species conservation (e.g., Argentina and Guatemala, among others, recognize

¹¹⁸ Central, R Sentencian con 3 y 4 años de cárcel a 2 chinos por caso tráfico de comillos. Los Tempos 10 November 2018, <https://www.lostiempos.com/actualidad/pais/20181110/sentencian-3-4-anos-carcel-2-chinos-caso-trafico-cormillos> (last visited 13 April 2021)

this) regardless of their economic valuation as national patrimony. Using jaguar specific laws will underscore the importance of jaguar and conservation more broadly within a country, enable prosecutors to have clear and specific laws to resort to in the application of penalties, and provide a clear deterrent for would-be criminals that indicates crimes against jaguars are prohibited, notwithstanding local and regional perceptions of carnivore killing and trading.

As part of this recommendation, we advocate working with prosecutors to encourage the use of existing environmental laws rather than relying on other kinds of non-environmental laws to prosecute for crimes related to illegal hunting of jaguars, trafficking jaguars, or other crimes against nature that could impact jaguars. That said, in the situations where conservation or jaguar-specific laws do not exist or exist with small penalties, we must encourage prosecutors to creatively interpret existing criminal typologies such as crimes against national patrimony and other types of existing criminal laws, to sanction illegal trafficking and/or crimes against nature and provide sufficient deterrents to would-be illegal actors.

5.2 Establish clear administrative and criminal penalties for hunting, trafficking, and refusal to comply with best practices for coexistence.

Whilst policies and regulations are important for clarity about the status of protection that is granted to jaguars, and what individuals can and cannot do, penalties stated at the legal and infra-legal level are important deterrents of unwanted behaviors. We advocate for countries to update and enforce clear administrative and criminal penalties for all violations related to jaguar conservation. We advocate for a review of current penalties to ensure these are high enough to deter would-be criminals (e.g., Argentina has strong deterrents) and that the penalties can be applied to and will sufficiently deter foreign actors and criminal organizations (e.g., Colombia specifies additional penalties for foreign nationals; French

Guiana and Honduras increase penalties if violations occur as part of an organized crime group). For countries such as Ecuador, Mexico and Peru that apply penalties based on income or country tax units, more work needs to be done to ensure those penalties are sufficient deterrents for nationals, and how application may vary if foreign actors are involved. Countries should make an effort to at least equate penalties with the international black-market price of jaguar parts and products, otherwise these legal deterrents may prove ineffective.

Proper enforcement of administrative and criminal penalties can discourage opportunistic behavior that leads to killings and trafficking and instead encourage people to adopt practices for coexistence and stigmatize killing for illegal trade. The laws and penalties should include intolerance and legal persecution for local and national trade in jaguar artifacts (e.g., jewelry with teeth, products using hide, and medicinal applications), as local low-paying trade provides an incentive for opportunistic jaguar killings. At the time of writing, a proposal to recategorize wildlife trafficking as a modality of organized crime was being evaluated by the Peruvian Congress.¹¹⁹ Supporting efforts such as these, accompanied by capacity building of local officials, would contribute to strengthening prosecution and, in the long term, dismantling the organizations behind local killing and trading of wildlife that could otherwise be framed as a local problem.

Though all countries in our review have passed some administrative and criminal sanctions for illegal hunting and trading of wildlife parts, there is a need for effective implementation of said legal consequences. Wildlife authorities in jaguar range countries are expected to

¹¹⁹ Ley N° 6051-2020, Presentado 21-08-2020 (Categorizes crimes related to illegal trafficking of flora and fauna as organized crime.)
https://leyes.congreso.gob.pe/Documentos/2016_2021/Proyectos_de_Ley_y_de_Resoluciones_Legislativas/PL06_051-20200821.pdf (last visited 4 May 2021).

perform their enforcement duties despite lacking basic resources (such as vehicles and fuel), battling weak political will and administrative bureaucracy, among other factors. This current low level of efficacy, and in some instances, near complete ineffectiveness of law enforcement systems in jaguar range countries, is an important factor enabling jaguar trade.¹²⁰

5.3 Modify the language of existing laws to make more suitable for adoption, enforcement and prosecution.

Related to crafting and adopting jaguar specific laws, some existing conservation laws could be modified to make them more suitable for application to jaguar conservation and also easier to interpret for enforcement and prosecution purposes. For example, laws that require country lists be created and maintained could increase clarity around the needed approvals for the lists and could also be streamlined to avoid additional bureaucracy. In Panama, a 2008 list was approved and a subsequent rule indicates the process for updating the list but does not specify whether the updated list needs a separate approval. This lack of clarity can be found in other countries (e.g., Honduras, which requires a list but is not clear whether updates need to be approved). Argentina has approved lists from 1983 and 2005, and significant efforts were made in the conservation community to update a categorization of endangered mammals that is yet to obtain official legal approval.¹²¹ Bolivia approved one CITES list¹²² but requires that any updates to the CITES list receive bilateral approval by two national Ministries, Economy and Public Finances and Environment and Water.¹²³ Countries could consider adopting the CITES lists as well as subsequent modifications as the official country

¹²⁰ Melissa Arias et al., *Characteristics of, and Uncertainties about, Illegal Jaguar Trade in Belize and Guatemala*, 250 BIOL. CONSERV. 108765, (2020) <https://doi.org/10.1016/j.biocon.2020.108765>.

¹²¹ See: Secretaría de Ambiente y Desarrollo Sustentable de la Nación y Sociedad Argentina para el Estudio de los Mamíferos (eds.) CATEGORIZACIÓN 2019 DE LOS MAMÍFEROS DE ARGENTINA SEGÚN SU RIESGO DE EXTINCIÓN. LISTA ROJA DE LOS MAMÍFEROS DE ARGENTINA. (2019) <http://cma.sarem.org.ar>.

¹²² Decreto Supremo N° 3048 11 January 2017, art. 2. Diario Oficial Edición 926 NEC 09-01-2017 (Bolivia).

¹²³ *Id.* art. 5

species lists as Guyana has done.¹²⁴ If a country decides to depart from the CITES species list, a separate approval would need to occur.

We also advocate providing specificity in legislation and guidance on vague language. In some countries, government approved management plans may exist that pertain to wildlife writ large but these more general management plans should be explicit for jaguar.¹²⁵ For example, Venezuela has a general action plan for biodiversity but it is not specific to jaguar nor is it legally approved.¹²⁶ Other vague language to revisit may include ‘reasonable take’ for conflict management (e.g., Belize/Paraguay Protocol) or ‘Integrity of human life’ (e.g., Costa Rica). The laws should also specifically and explicitly differentiate prohibitions on hunting and trade to make clear the violations for specific activities, this is already clear in most national legal structures, but it is also important to keep in mind as laws are revised and updated.

5.4 Recognize non-binding management structures within the legal system.

Across jaguar range, we identified numerous processes of local management, particularly examples focused on human-jaguar coexistence, initiated and executed at the “below infra-legal level.” As noted in the legal framework, these management structures are non-binding, meaning that their lack of enforcement cannot be challenged before the courts. In most cases, their implementation depends on community commitments, often linked to external funding from non-governmental organizations or international development sources, and/or

¹²⁴ See the Wildlife Conservation and Management Act 2016 (Act N° 22 of 2016), Part II, art. 3 The Official Gazette 05-10-2016 as described in the Guyana summary for details.

¹²⁵ See Aleksander Trajce et al. *All carnivores are not equal in the rural people’s view. Should we develop conservation plans for functional guilds or individual species in the face of conflicts?* GLOB. ECOL. CONSERV. 19, e00677 (2019) for discussion of how the differences among public attitudes, conflict management options and conservation initiatives indicates the importance of species-specific management plans for carnivores.

¹²⁶ Gobierno Bolivariano De Venezuela. ESTRATEGIA NACIONAL PARA LA CONSERVACIÓN DE LA DIVERSIDAD BIOLÓGICA 2010-2020 Y SU PAN DE ACCIÓN NACIONAL. (2012). <https://www.cbd.int/doc/world/ve/ve-nbsap-v2-es.pdf> (last visited 26 April 2021).

dependent on public servants' commitment to the plans. These conditions, based upon personalities and external funding, render program continuity vulnerable and potentially less effective than programs that reflect higher level priority-setting validated through legislation. Dependency on external conservation funds or official development assistance (ODA) bears the risk that it is usually finite. Most donors desire to see subsidized programs not only “graduate” from needing outside assistance but “scale up” the impacts of a project while doing so. That highlights an obstacle to jaguar conservation range wide which is inadequate public investment to execute conservation mandates, often as much a result of where funds go, as how much funds are available to “go around”.

While the initiation of management structures dependent upon non-binding agreements and funding sources has been better than no advances at all, programs recognized and adopted at national levels and executed at state and departmental levels would be stronger. With the exception of the Ministry-executed livestock and jaguar coexistence steps to follow in case of conflict, such as in Costa Rica,¹²⁷ most management structures for human-jaguar coexistence have been locally applied through non-binding structures not recognized within the legal system.¹²⁸ This is even true for well-regarded and successful programs, e.g., the National Association of Cattle Ranchers - *Confederación Nacional de Organizaciones Ganaderas* Risk Management Insurance fund that covers death due to predators.¹²⁹ This non-legally binding initiative means that its permanence depends on the association's leadership and it

¹²⁷ Decreto N° 40548-MINAE de 2017 – Reglamento a la Ley de Conservación de la Vida Silvestre, art. 26 to 30, La Gaceta N° 150 09-08-2017(Costa Rica).

¹²⁸ This has been the case to-date with the jaguar officer program for farms in Belize, the coexistence/farm improvement scenarios in the buffer zone of the Maya Biosphere Reserve in Guatemala, conservation agreements with indigenous producers in the Nicaragua-Honduran Moskitia, and intervention strategies executed at a ranch by ranch level in Paraguay.

¹²⁹ *Seguro para Cubrir la Muerte por Depredadores*. Administración de Riesgos Fondo De Aseguramiento, CONFEDERACIÓN NACIONAL DE ORGANIZACIONES GANADERAS (CNOG). <http://fondocnog.com/seguro-para-cubrir-la-muerte-por-depredadores/> (last visited 24 March 2021).

could end easily without legal ramifications and with potentially negative results for human-jaguar conflicts.

We advocate steps made to recognize within a country's legal framework traditional customary management as well as effective management plans using technical assistance from international and/or local NGOs for improved impact. Lack of non-binding structures could result in inability to enforce customary approaches, governments contravening otherwise sustainable practices for species conservation, or management plans exposed to the vagaries of political will and/or outside financial support. For example, in French Guiana, areas not covered by the Prefectural Decree indicating a zero quota for hunting jaguar are mostly under traditional management by the local Indigenous Peoples living in these areas. However, should an illegal gold miner or another non-Indigenous person living in that region shoot a jaguar where hunting quotas do not apply, there may be no clear law to pursue prosecution for that specific crime. Without binding requirements for jaguar protections, governments could contravene customary approaches with other legal mechanisms. Customary uses for jaguar body parts may include decorative, medicinal, cultural or therapeutic purposes.¹³⁰ More research is needed to objectively determine whether these practices help or hinder species conservation and how legal mechanisms could contravene or incentivize these approaches. That said, longstanding traditional practices may incentivize the sustainable use of natural resources on a broad scale and if stopped might leave little reason to protect a species. In some places select community-based management and conservation strategies for felids have been recommended.¹³¹

¹³⁰Nahiel Garcia-Alaniz et al. *Human-felid interactions in three Mestizo communities of the Selva Lacandona, Chiapas, Mexico: benefits, conflicts and traditional uses of species*. HUM. ECOL. 38(3):451-457 (2010); Melissa Arias et al. *Complex interactions between commercial and non-commercial drivers of illegal trade for a threatened felid*, ANIM. CONSERV.16 March 2021 <https://doi.org/10.1111/acv.12683>

¹³¹ Nahiel Garcia-Alaniz et al. *Id.*, Arias et al. *Id.*

With regard to management plans, seven countries have management plans however only four are legally binding. Non-binding plans exist in Honduras, Mexico, Panama, and Paraguay. Mexico's plan was completed in 2009, while Honduras and Panama were both completed in 2011.¹³² Although steady progress toward management plan goals and objectives may be underway, progress made in these countries over a decade of work could be vulnerable to political will and available funding from conservation organizations who help support implementation. Timely national ratification of management plans will help secure long-term management actions on the ground.

Government and/or NGO recommendations on human-jaguar conflict or management may be used to protect local livelihoods. However, sole reliance on customary laws or non-binding recommendations without proper legal recognition could place jaguars and communities at risk if recommendations are not universally followed and no recourse for compliance exists.

Leaving wildlife management to non-binding customary practices may make conservation vulnerable to ephemeral political, personality, and funding factors. On the other hand, prohibiting longstanding traditional practices could have the undesired effect of contravening a practice that precedes the State, which could undermine jaguar conservation and local livelihoods while simultaneously created a situation difficult, if not impossible, to enforce. As usual, balance is required for strategies to be effective and sustainable.

5.5 Improve harmonization of policies across countries

With the legal framework presented in this paper, we advocate for harmonizing policies across multiple legal levels, which is especially important when looking at transboundary

¹³² ICF *supra* note 112; SEMERNAT & CONAP *supra* note 113; Department de Biodiversidad y Silvestre *supra* note 114.

efforts. At the broadest scale, most countries have introduced some protections to become aligned with international treaties and conventions. These protections need to be viewed across range states with the consideration that jaguars may move across borders. For example, the border shared by Ecuador, Peru and Colombia has been catalogued as a Jaguar Conservation Unit given the population abundance in this area and desire to ensure connectivity among jaguar populations, their prey, and ecosystem services fundamental to Indigenous peoples.¹³³ Yet, these countries have decidedly different laws.¹³⁴ For example, Peru has adopted aggravated penalties for illegal killings performed inside protected areas whereas the other countries have not.

Countries within jaguar range took a first step towards a formal mandate to achieve transboundary conservation in early 2020, when jaguars were included in Appendix I of the CMS.¹³⁵ Accordingly, range State parties to a migratory species listed in Appendix I shall prohibit the taking of such species, with very restricted scope for exceptions,¹³⁶ conserving and where appropriate restoring their habitats; preventing, removing or mitigating obstacles to their migration and controlling other factors that might endanger them.¹³⁷ Parties to the CMS have pledged to mitigate the impacts of infrastructure such as roads and energy transmission lines on migratory species, and to investigate possible trade. Regional infrastructure projects are some of the main threats to jaguar conservation (e.g., plans exist to dredge the Napo river and transform Amazonia into a transportation hub per the Initiative to Integrate the Regional Infrastructure of South America).¹³⁸

¹³³Jose L. Mena et al., *Abundance of Jaguars and Occupancy of Medium- and Large-sized Vertebrates in a Transboundary Conservation Landscape in the Northwestern Amazon*. 23 GLOB. ECOL. CONSERV. e01079 (2020). <https://doi.org/10.1016/j.gecco.2020.e01079>

¹³⁴ *Id.*

¹³⁵ CMS, *supra* note 58

¹³⁶ CMS, *supra* note 58, § 5, art. III

¹³⁷ CMS, *supra* note 58, § 4, art. III

¹³⁸ Cynthia S. Simmons, et al., *Science in Support of Amazonian Conservation in the 21st Century: the Case of Brazil*. BIOTROPICA 6, 850 (2018).

As a global treaty, CMS implementation depends on effective enforcement of national level laws and regulations in each country's transboundary regions. Bilateral agreements stemming from it can enhance coherent enforcement in neighboring countries towards protecting transboundary jaguar populations. At the National level, laws and regulations need to be reviewed for loopholes. Should loopholes exist, the legalities of these can be challenged for courts to mandate adoption of proper regulations. Beyond the scope of this review but important for range wide conservation, within individual countries, laws may differ across states or provinces and application of penalties may differ across management districts.

6. Future research needs and opportunities

In this article, we provide the first review of the national laws applicable to jaguar conservation range wide. It is by no means comprehensive. Our work reveals opportunities for further in-depth review of laws that can improve jaguar conservation across the 19-country range. Here we pose ideas to be explored in future analyses:

- **Harmonization of Laws:** Review laws at the state and provincial level to assess consistency within a country as well as with neighboring countries' national and state and provincial laws to identify gaps in legal protection across important jaguar habitats
- **Loopholes:** Assess the extent to which legal loopholes translate to actions that might harm jaguars and determine what updates to the laws are needed.
- **Wildlife Trade:** Determine the application and efficacy of regulations, including those outside of wildlife/environmental laws, and needed updates to discourage and eliminate commercialization, local trade, online trade and ecommerce.
- **Human-Jaguar Conflict:** Compare national, state, and local legislation for managing livestock loss and killing of problem jaguars to determine changes

needed to the legal process to reduce jaguar mortality, minimize losses, and create flexible systems for addressing chronic conflict issues.

- **Enforcement/Implementation:** Examine inefficiencies in enforcement and implementation including gaps in legislation, barriers to action by institutions and individuals, stakeholder perceptions of laws as deterrents, ability of laws to prevent crimes, as well as impediments in the legal path from interdictions, arrest, seizures, and prosecutions.

7. Conclusions

We have provided a compilation (Appendix II) and analysis of National Laws impacting jaguar conservation. The analyses are offered to facilitate considerations and ways to address omissions in current laws that could negatively affect jaguar populations. We present this analysis to provide a comparative baseline for scholars and legislators to improve laws, public officials to improve enforcement, and conservation practitioners to evaluate the efficacy of these laws' impacts on jaguar populations. Individuals and institutions working on jaguar conservation can use the information to ensure that national legal frameworks and administrative and criminal penalties for violations are potent. Government and territorial institutions can benefit from the analysis, but also have a responsibility to ensure adequate enforcement capacity to implement the laws. We believe this presentation will help range countries realize the 2030 goals for conservation of jaguar across the Americas.

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Declaration of Interest Statement: The authors have no conflicts of interest to report.

Table 1. Definitions and justifications for each characteristic reviewed in the jaguar legal analysis of each country.

Characteristic	Definition/Justification
Country	Our review covers national level laws only, not state or provincial level. ¹³⁹
Date of joining CITES	The date when a country ratified CITES (many countries ratified CITES after jaguar was listed on 1 July 1975 in Appendix I).
Constitutional provision	The broad doctrine within the constitution that provides the umbrella under which jaguar protection laws can exist, ¹⁴⁰ as explained above.
Wildlife Protection Agency	Agency or Agencies with legal authority over jaguar management within each country, at the national level.
Endangered Species Lists	Whether or not a country has approved an endangered species list that specifies the category of protection at the legal or infra-legal level. ¹⁴¹
Jaguar Specific Laws	Legal level laws that explicitly address the jaguar species and its applicable protection. ¹⁴²
Management Plans	Whether a country has a legal or infra-legal level approved wildlife management plan that is specific to jaguars within its territory. The quality of the plan is not evaluated in this paper.
Human-Wildlife Conflict	Whether a country has legal or infra-legal level approved process addressing human-jaguar or livestock-jaguar conflicts. ¹⁴³ The quality of the process is not evaluated in this paper.
Legal Killing Exceptions	Whether a country has provisions for allowing legal hunting in certain circumstances. ¹⁴⁴ <ul style="list-style-type: none"> (a) Sport (Trophy) Hunting: Whether the country’s laws or loopholes could allow for recreational hunting of jaguars over populations and/or areas managed for this purpose. (b) Indigenous use (subsistence): Whether the country’s regulatory framework allows for jaguars to be legally killed for subsistence uses, usually performed by members of indigenous and local communities. (c) Human-jaguar conflict: Whether the country’s human-carnivore conflict laws allow for the legal killing of jaguars in case they are considered a threat over human life or property (such as cattle).

¹³⁹ At the time of writing this manuscript there was no discussion regarding the delimitation of countries’ borders or diplomatic recognition of governments except for Venezuela’s presidential crisis, see country summary.

¹⁴⁰ David R. Boyd, *The Status of Constitutional Protection for the Environment in Other Nations*. David Suzuki Foundation (2019) (last visited 12 December 2020).

¹⁴¹ Hugh P. Possingham et al., *Limits to the use of threatened species lists*. 17 TRENDS ECOL. EVOL. 11, 503 (2002). Some countries (e.g., Bolivia, Nicaragua) have lists of species closed for hunting on which jaguar is included, we did not count this as an approved endangered species list because there is no categorization of protected status.

¹⁴² Katherine Gibbs & David J. Currie, *Protecting Endangered Species: Do the Main Legislative Tools Work?* 7 PLOS ONE 5, e35730 (2012) doi:10.1371/journal.pone.0035730; Matthew E. Rahn et al., *Species Coverage in Multispecies Habitat Conservation Plans: Where’s the Science?* 56 BIOSCIENCE 7, 613(2006).

¹⁴³ PEOPLE AND WILDLIFE, CONFLICT OR COEXISTENCE? (Rosie S. Woodroffe et al., eds. 2005).

¹⁴⁴ Yaffa Epstein, *Killing Wolves to Save Them? Legal Responses to ‘Tolerance Hunting’ in the European Union and United States*. 26 REV. EUR. COMP INT. ENVIRON. LAW 1, 19 (2017) DOI: 10.1111/reel.12188; Woodruffe et al., *supra* note 143

Penalties for Hunting, Administrative or Criminal	If the country foresees fines, legal remedies and/or imprisonment for those who commit violations related to hunting laws. ¹⁴⁵ The details of said penalties are addressed in Appendix II – country summaries. ¹⁴⁶
Administrative or Criminal Penalties for Trade	If the country foresees fines, legal remedies and/or imprisonment for those who commit violations related to trading parts and products of jaguars and/or endangered species such as jaguars. ¹⁴⁷ The details of said penalties are addressed in Appendix II - country summaries.

¹⁴⁵THE TRADE IN WILDLIFE: REGULATIONS FOR CONSERVATION, (Sarah Oldfield ed. 2003); Andrea Gelatt & Sheila Einsweiler, *Civil and Administrative Remedies for Wildlife and Plant Violations*, 63 U.S. ATT'YS BULL. 3, 69 (2015). Shennie Patel & Gary Donner, *A Primer on Sentencing in Wildlife Crimes Prosecutions*, 63 U.S. ATT'YS BULL. 579 (2015).

¹⁴⁶If applicable, administrative and criminal penalties are detailed in local currency and converted to USD, as of January 1 2021.

¹⁴⁷ Oldfield, *supra* note 145, Gelatt & Einsweiler, *supra* note 145, Patel & Donner, *supra* note 145.

National Details																
Country	Date of joining CITES DD/MM/YYYY	Constitutional provision <i>Human Health Rights, Rights of Mother Earth or Both</i>	Wildlife Protection Agency <i>Agency/Agencies with legal authority over jaguars at National level</i>	Endangered Species Lists <i>Government Approved Legal or Infra Legal Level</i>	Jaguar Specific Laws <i>Government Approved Legal Level Only</i>	Management Plans <i>Government Approved Legal or Infra Legal Level</i>	Human-Jaguar Conflict <i>Government Approved Legal or Infra Legal Level</i>	Legal Killing Exceptions			Sanctions					
								<i>Killing jaguars is / could be allowed under:</i>			<i>Administrative or Criminal</i>		<i>for Hunting</i>		<i>For Trade</i>	
								Sport (Trophy) hunting	Indigenous use (subsistence)	Human-Jaguar Conflict	Administrative	Criminal	Administrative	Criminal		
Argentina	8/1/1981	Human Health Rights	Secretaría de Ambiente y Desarrollo Sustentable (SAyDS)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes			
Belize	19/08/1986	Human Health Rights	Department of Environment (DOE)	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes			
Bolivia	6/7/1979	Both	Viceministerio de Medio Ambiente y Biodiversidad, Policía Forestal de Medio Ambiente	No	No	Yes	No	No	No	No	Yes	Yes	Yes			
Brazil	6/8/1975	Human Health Rights	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA)	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes			
Colombia	31/08/1981	Human Health Rights	Ministerio de Ambiente, Vivienda y Desarrollo Territorial, and local level agencies	Yes	No	No	No	No	No	No	Yes	Yes	Yes			
Costa Rica	30/06/1975	Human Health Rights	Ministerio de Ambiente y Energía (MINAE) Sistema Nacional de Áreas de	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes			
Ecuador	11/2/1975	Both	Ministerio del Ambiente	Yes	No	Yes	No	No	No	No	Yes	Yes	Yes			
French Guiana	11/5/1978	Human Health Rights	Office Français de la Biodiversité (OFB)	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes			
Guatemala	7/11/1979	Human Health Rights	Ministerio del Ambiente y Recursos Naturales (MARN), Consejo Nacional de Áreas Protegidas (CONAP)	Yes	No	No	No	No	No	No	Yes	Yes	Yes			
Guyana	27/05/1977	Human Health Rights	Environmental Protection Agency	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes			
Honduras	15/03/1985	Human Health Rights	Instituto Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre	No	No	No	No	Yes	No	No	Yes	Yes	Yes			
Mexico	2/7/1991	Human Health Rights	Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT)	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes			
Nicaragua	6/8/1977	Both	Ministerio del Ambiente y los Recursos Naturales (MARENA)	No	No	No	No	No	No	No	Yes	Yes	Yes			
Panama	17/08/1978	Human Health Rights	Instituto Nacional de Recursos Naturales Renovables (INRENARE)	Yes	No	No	No	No	No	No	Yes	Yes	Yes			
Paraguay	15/11/1976	Human Health Rights	Secretaría Ambiental (SEAM)	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes			
Peru	27/06/1975	Human Health Rights	Servicio Nacional Forestal y de Fauna Silvestre (SERFOR)	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Suriname	15/02/1981	Human Health Rights	Ministerie van Arbeid, Technologische Ontwikkeling en Milieu (ATM)	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes			
United States	14/01/1974	N/A	U.S. Fish and Wildlife Service (USFWS)	Yes	No	Yes	No	No	No	Yes	Yes	Yes	Yes			
Venezuela	24/10/1977	Human Health Rights	Ministerio de Ambiente y Recursos Naturales Renovables	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes			

Table 2. Presence of legal instruments relevant to jaguar conservation in 19 jaguar range countries

FIGURE 1

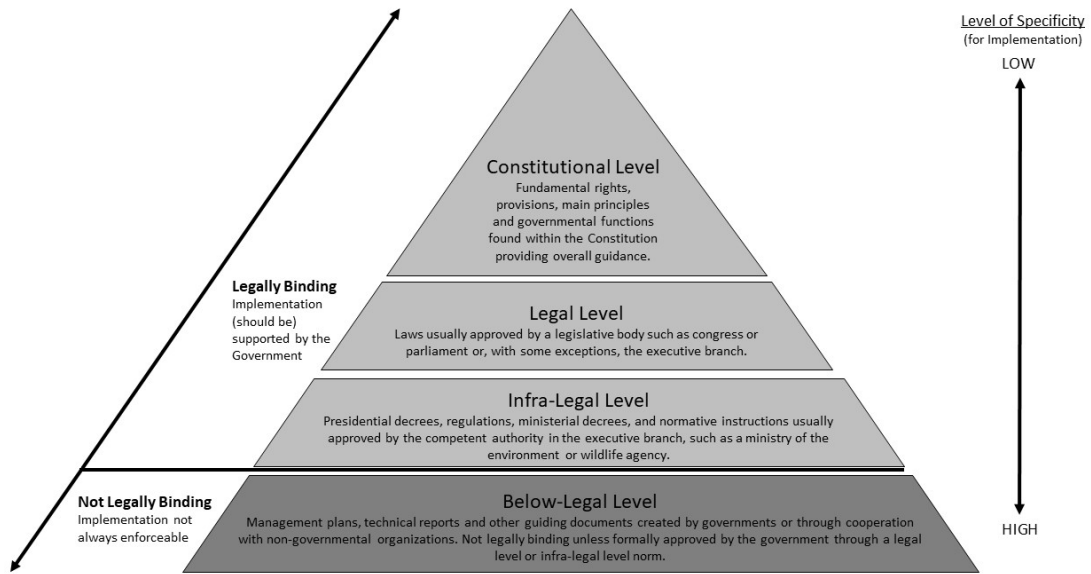


FIGURE 2



Figure 1. A framework to guide review of jaguar laws based on Kelsen’s Pure Theory of Law and Merkl’s theory of the hierarchical structure of the legal order (Olechowski 2018).

Figure 2. Presence of formal legally binding instruments to protect jaguars across 19 range countries including approved endangered species lists, approved jaguar laws, approved management plans, approved human-wildlife conflict guidance, and administrative and criminal penalties for illegal hunting and trade.

Appendix I: Relevant Legal Instruments

1. ARGENTINA

- 1.1. Constitución de la Nación Argentina (1853)
- 1.2. Ley 22.344 (1980) (Approved CITES)
- 1.3. Ley 22.351 (1980) - Ley de Parques Nacionales.
- 1.4. Ley 22.421 (1981) - Ley de Conservación de la Fauna
- 1.5. Ley 25.463 (2001) – Declara a la Panthera onca como monumento natural (Approved Jaguar Law)
- 1.6. Decreto 691 (1981) - Conservación de la Fauna
- 1.7. Decreto 666 (1997) – Aprovechamiento racional de la fauna silvestre: importación, exportación y comercio interprovincial
- 1.8. Resolución 144-1983 (1983) – Ordenamiento de Especies de Fauna Autóctona (Approved Endangered Species List)
- 1.9. Resolution 1030/2004 (2004) – Categorización de Anfibios, Reptiles y Mamíferos
- 1.10. Resolución 149-E/2017 (2017) – Plan Nacional de Conservación del Monumento Nacional Yaguareté (Approved Action Plan)

2. BELIZE

- 2.1. Constitution of Belize (2017)
- 2.2. Wildlife Protection Act – Chapter 220 (2000)

3. BOLIVIA

- 3.1. Constitución Política del Estado Plurinacional de Bolivia (2009)
- 3.2. Decreto Ley No. 12301 – Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca (1975)
- 3.3. Ley No. 1333 – Ley del Medio Ambiente (1992)
- 3.4. Ley No. 1768 - Código Penal (1997)
- 3.5. Ley No. 1005 – Código del Sistema Penal (2017)
- 3.6. Decreto Supremo No. 22641 (1990) – Declara la Veda General Indefinida
- 3.7. Decreto Supremo No. 25458 (1999) – Ratifica la Veda General Indefinida
- 3.8. Decreto Presidencia No. 3048 (2017) – Aprueba Procedimientos Administrativos para la Protección de Flora y Fauna Silvestre
- 3.9. Resolución administrativa No. 014-2020 (2020) – Aprueba Regulaciones Ambientales Precautorias

3.10. Resolución administrativa No. 049-20 (2020) – Approved Jaguar Conservation Action Plan

4. BRAZIL

- 4.1. Constituição da República Federativa do Brasil (1988)
- 4.2. Lei No. 5.197 – Código de Caça (1967) Brazilian Hunting Code
- 4.3. Lei 9.605 – Lei dos Crimes contra o Meio Ambiente (1998) - Environmental Crimes Law
- 4.4. Decreto -Lei No. 2.848 - Código Penal (1940) – Penal Code
- 4.5. Decreto No. 6.514 (2008) Regulation for the Environmental Crimes
- 4.6. Portaria IBAMA No. 63 (2014) (Approved Action Plan for Jaguars)
- 4.7. Portaria MMA No. 444 (2014) (Approved Endangered Species List)
- 4.8. Portaria MMA No. 612 (2018) (Approve Action Plan for Big Cats)
- 4.9. Instrução Normativa MMA No. 3 (2003)- – Lista Nacional Oficial De Espécies Da Fauna Ameaçadas De Extinção
- 4.10. Instrução Normativa IBAMA nº 175 (2008) - Fica proibida a reprodução dos grandes felinos exóticos

5. COLOMBIA

- 5.1. Constitución Política de Colombia (1991)
- 5.2. Decreto Ley No. 2811 - Código Nacional de Recursos Naturales Renovables y de Protección al Medio Ambiente (1974)
- 5.3. Ley No. 84 - Estatuto Nacional De Protección De Los Animales (1989)
- 5.4. Ley No. 472 - Desarrolla el Artículo 88 de la Constitución Política de Colombia (1998)
- 5.5. Ley No. 599/ Ley No. 1453– Código Penal (2000/2011)
- 5.6. Resolución No. 848 (1973) - Veda la caza de mamíferos silvestres del Orden Carnívoros
- 5.7. Resolución No. 1912 (2017) (Approved Endangered Species List)
- 5.8. Sentencia C-045/19 (2019) de la Corte Constitucional de Colombia
- 5.9. Decreto No. 1785 (2020) – Fija salario mínimo mensual
- 5.10. Decreto No. 1785 (2020)

6. COSTA RICA

- 6.1. Constitución Política de la República de Costa Rica (1949)
- 6.2. Ley 4573 - Código Penal (1970)
- 6.3. Ley No. 7317 – Ley de Conservación de la Vida Silvestre (1992)
- 6.4. Ley No. 9106 – Reforma Ley de Conservación de la Vida Silvestre
- 6.5. Decreto Ejecutivo No. 40548-MINAE - Reglamento a la Ley de Conservación de la Vida Silvestre (2017)
- 6.6. Resolución R-SINAC-CONAC-092-2017 (2017) – Sistema Nacional de Áreas de Conservación (Approved Endangered Species List)

7. ECUADOR

- 7.1. Constitución de la República del Ecuador (2008)
- 7.2. Código Orgánico del Medio Ambiente (2017)
- 7.3. Código Orgánico Integral Penal (2014)
- 7.4. Resolución No. 105 (2000) (Approved Endangered Species List)
- 7.5. Acuerdo Ministerial No. 114 (2017) (Approved Action Plan)
- 7.6. Decreto Ejecutivo No. 752 – Reglamento al Código Orgánico del Medio Ambiente (2019)

8. FRENCH GUIANA

- 8.1. Constitution de la République Française (1958)
- 8.2. Code Penal (1992)
- 8.3. Code de l'environnement (2000)
- 8.4. Charte de l'environnement (2004)
- 8.5. Arrêté 15 Mai (1986)
- 8.6. Arrêté No. 583 (2011)

9. GUATEMALA

- 9.1. Constitución de la República de Guatemala (1985)
- 9.2. Decreto No. 17-73 - Código Penal (1973)

- 9.3. Decreto No. 4-89 – Ley de Áreas Protegidas (1989)
- 9.4. Decreto No. 36-2004 - Ley General de Caza (2004)
- 9.5. Acuerdo Gubernativo No. 759-90 - Reglamento de la Ley de Áreas Protegidas (1990)
- 9.6. Acuerdo Gubernativo No. 84-2007 - Reglamento De La Ley General De Caza (2007)
- 9.7. Resolución de Secretaría Ejecutiva de CONAP SC. No. 01/2009 (2009) (Approved Endangered Species List)

10. GUYANA

- 10.1. Constitution of the Cooperative Republic of Guyana (1980)
- 10.2. Act No. 14 of 2011 - Protected Areas Act 2011 (2011)
- 10.3. Act No. 22 of 2016 - Wildlife Conservation and Management Act 2016 (2016)
- 10.4. Wildlife Conservation and Sustainable Use Regulations No. 28/2019 (2019) (Approved Endangered Species List)

11. HONDURAS

- 11.1. Constitución de la República de Honduras (1982)
- 11.2. Decreto No. 104-93 – Ley General del Ambiente (1993)
- 11.3. Decreto No. 130-2017 – Nuevo Código Penal (2020)
- 11.4. Acuerdo No. 045-2011 (2012) (Approved Endangered Species List)
- 11.5. Plan nacional para la conservación del jaguar (*Panthera onca*), Honduras (Non-binding Action Plan)

12. MÉXICO

- 12.1. Constitución Política De Los Estados Unidos Mexicanos (1917)
- 12.2. Ley General del Equilibrio Ecológico y la Protección al Ambiente (1988)
- 12.3. Ley General De Vida Silvestre (2000)
- 12.4. Código Penal Federal (1931)
- 12.5. Norma Oficial Mexicana NOM-059-SEMARNAT-2010 (2010) (Approved Endangered Species List)
- 12.6. Programa De Acción Para La Conservación De La Especie (2009) (Non-binding Action Plan)

13. NICARAGUA

- 13.1. Constitución Política de Nicaragua (1987)
- 13.2. Ley No. 206 – Ley de caza (1956)
- 13.3. Ley No. 625 - Prohíbese Aprehensión Y Caza De Toda Clase De Animales Silvestres Y Exportación De Huevo (1977)
- 13.4. Ley No. 217 – Ley General del Medio Ambiente y Recursos Naturales (1996)
- 13.5. Ley No. 559 – Ley Especial De Delitos Contra El Medio Ambiente Y Los Recursos Naturales (2005)
- 13.6. Decreto Ejecutivo No. 9-96 (1996) - Reglamento de la Ley General del Medio Ambiente y los Recursos Naturales
- 13.7. Decreto Ejecutivo No. 8-98 (1998) - Normas y procedimientos para la exportación e importación de especies de flora y fauna silvestres de Nicaragua
- 13.8. Resolución ministerial 007-99 (1999) – Sistema de Vedas de Especies Silvestres
- 13.9. Resolución ministerial No. 12-2021 (2021) – Actualiza Sistema de Vedas para el periodo 2021
- 13.10. Resolución ministerial No. 003-2008 (2008) – Vedas de Especies Silvestres

14. PANAMA

- 14.1. Constitución Política de la República de Panamá (1972)
- 14.2. Ley No. 24 – Legislación de vida silvestre (1995)
- 14.3. Ley No. 14 – Código Penal (2007)
- 14.4. Decreto Ejecutivo No. 43 – Reglamento de la Ley No. 24 (2004)
- 14.5. Resolución No. AG-0051-2008 (2008) - Reglamenta lo relativo a Especies de Flora y Fauna Silvestre Amenazadas
- 14.6. Resolución No. DM-0657-2016 (2016) (Approved Endangered Species List)
- 14.7. Plan de acción para la conservación de los jaguares en Panamá (2011) (Non-binding Action Plan)

15. PARAGUAY

- 15.1. Constitución de la República del Paraguay (1992)
- 15.2. Ley No. 96/92 – Ley de vida silvestre (1992)
- 15.3. Ley No. 716/96 – Ley de crímenes ambientales (1996)
- 15.4. Ley 5302 – Conservación de la Panthera Onca (2014)

15.5. Resolución No. 63s/17 (2017) (Approved Endangered Species List)

15.6. Plan de Manejo de la Panthera Onca (2016) (Non-binding Action Plan)

16. PERU

16.1. Constitución Política del Perú (1993)

16.2. Ley No. 29763 – Ley Forestal y de Fauna Silvestre (2011)

16.3. Ley No. 30407 - Ley De Protección Y Bienestar Animal (2016)

16.4. Ley No. 27444 - Ley del Procedimiento Administrativo General (2001)

16.5. Decreto Legislativo No. 635 – Código Penal (1991)

16.6. Decreto Supremo No. 004-2014-MINAGRI (2014) – Approved Endangered Species List

16.7. Decreto Supremo No. 019-2015 (2015) – Reglamento para la Gestión de Fauna Silvestre

16.8. Decreto Supremo 011- 2017-MINAGRI (2017) – Estrategia Nacional para Reducir el Tráfico Ilegal de Fauna Silvestre en el Perú, periodo 2017-2027

16.9. Resolución de Dirección Ejecutiva No. 241-2018-MINAGRI-SERFOR (2018) – Aprueba Metodología para la determinación del Valor al Estado Natural

17. SURINAME

17.1. Grondwet van Suriname(1987)

17.2. Jachtwet (1954)

17.3. Wet economische delicten (1986)

17.4. Jachtbesluit (2002)

17.5. Wet Dieren Welzijn (2017)

18. UNITED STATES

18.1. The Constitution of the United States of America (1789)

18.2. The Lacey Act (1900)

18.3. The Endangered Species Act (1973)

18.4. The Food, Conservation, and Energy Act (2008)

18.5. FR Doc. 2018–02769 (2018)

18.6. Jaguar Recovery Plan (2018) (Non-binding Recovery Plan)

19. VENEZUELA

- 19.1.** Constitución de la República Bolivariana de Venezuela (1999)
- 19.2.** Ley No. 29.289 – Ley de Protección de la Fauna Silvestre (1970)
- 19.3.** Presidencia de la República Decreto No. 1.485. (1996)
- 19.4.** Presidencia de la República Decreto No 1.486. (1996)
- 19.5.** Decreto No. 3.269 – Reglamento de la Ley de Protección a la Fauna Silvestre (1999)
- 19.6.** Ley No. 39.913 – Ley Penal del Ambiente (2012)

Appendix II: Country Summaries¹⁴⁸

ARGENTINA

Constitutional level

The Constitution provides that all inhabitants have the right to a healthy and balanced environment, apt for human development and aiming to productive activities to satisfy the present needs without jeopardizing the needs of future generations.¹⁴⁹ Authorities are called to protect this right and ensure rational use of natural resources. Argentinian provinces have their own constitutions and hold the original domain over their natural resources, and are independent to pass their own regulations as long as they do not contradict national level laws.¹⁵⁰

Legal level

International trade with live animals, products or byproducts from species considered endangered and listed in the Appendix 1 of CITES has been prohibited since 1981 by the Wildlife Conservation Regulation,¹⁵¹ following the country's adoption of CITES.¹⁵² Moreover, in 2001 jaguars were declared a National Monument.¹⁵³ The designation means that no use or activity can be performed with regards to the species, with the exception of duly authorized inspections of official or scientific nature. By granting this special status, hunting –either for sport or subsistence– is forbidden nationwide.

Argentina has provided both administrative and criminal penalties¹⁵⁴ with sanctions that

¹⁴⁸ All currency exchanges based on rates as of 1 January 2021

¹⁴⁹ CONSTITUCIÓN ARGENTINA [CONST. ARG., 1853] (ARG.), art. 41

¹⁵⁰ *Id.* art. 124.

¹⁵¹ Decreto Reglamentario 691/1981 Poder Ejecutivo Nacional Ley No 22.421 – Reglamentacion, Boletín Nacional 07-04-1981 updated by Decreto Reglamentario 666/1997 P.E.N. Ley N° 22.421 Boletín Nacional 25-07-1997 in support of Ordenamiento Legal Ley 22421 (1981) Boletín Nacional 12-03-1981.

¹⁵² Ratified by Ley 22.344/1980 Boletín Nacional 01-10-1982.

¹⁵³ Ley 25.463/2001 Boletín Nacional 13-09-2001 (while this law is specific to *Panthera onca*, it grants protection to the species under the provisions of Ley 22.351 (1980) Boletín Nacional 12-12-1980 that defines National Monuments).

¹⁵⁴ Poder Ejecutivo Nacional Ley 22.421/1981, Boletín Nacional 12-03-1981, art. 24-28.

range between 2 months and 3 years of prison, and administrative fines of up to 50 million pesos (\$594,385 USD). All penalties also apply to whoever knowingly transports, stores, buys, sells or commercializes pieces, products, or by-products from poaching.¹⁵⁵

Infra-legal level

The country's first list of autochthonous endangered species was passed in 1983,¹⁵⁶ listing jaguars as endangered. The species has since kept this status, with the 2005 list featuring the species in the same category.¹⁵⁷ Argentina passed a National Management Plan for the species in 2017.¹⁵⁸ This plan provides objectives to reduce occurrences of human-carnivore conflict, among other habitat conservation strategies.

BELIZE

Constitutional level

Belize is one of two countries in jaguar range that practices Common Law. The Constitution of Belize is dated 2017 and only briefly references the environment, as a requirement for its people's wellbeing.¹⁵⁹ The only reference to the conservation of natural resources is in an article related to protecting private property.¹⁶⁰

Legal level

¹⁵⁵ *Id.* Ch. 8, §27.

¹⁵⁶ Resolución 144/1983, Secretaría de Agricultura y Ganadería, Ordenamiento de especies de especies de fauna autoctona, Boletín Nacional 08-04-1983.

¹⁵⁷ Resolución 1030/2004 Secretaría Ambiente y Desarrollo Sustentable, Boletín Nacional 11-01-2004.

¹⁵⁸ Resolución 149-E/2017 Ministerio de Ambiente y Desarrollo Sustentable, Boletín Nacional 28-03-2017.

¹⁵⁹ THE CONSTITUTION OF BELIZE [CONST. BEL., 2017], preamble.

¹⁶⁰ *Id.* art 17.

The Belize Wildlife Protection Act¹⁶¹ provides that wildlife hunting is allowed only for those who hold a license. Jaguars are listed in the Schedule of said Act, among the species that are granted the highest protection, excluded from hunting licenses and any other form of hunting.¹⁶² Nowhere does the Act contemplate exceptions for subsistence hunting. Regarding human-carnivore conflict, however, the Belize Wildlife Protection Act¹⁶³ contemplates that under no circumstance it would be unlawful for a person without a license to hunt any wildlife as a form of self-defense or defense of other persons from being attacked. Following this provision, farmers are legally allowed to kill jaguars they consider a threat to their lives. The Belize Ministry of Forestry has gone further as to extend this exception to cases in which farmers consider jaguars as a threat to their livestock,¹⁶⁴ even though the law does not expressly say so. As for hunting endangered species without a license, the Wildlife Protection Act contemplates administrative fines of up to 500 Belize dollars (\$243 USD) for first offenders; and up to 1,000 Belize dollars (\$486 USD) and 3 years of imprisonment for individuals previously convicted in the last five years.¹⁶⁵ The same penalties apply for unauthorized possession and trading of wildlife parts.

BOLIVIA

Constitutional level

The Bolivian Constitution is led by eight Quechua ethical principles that distinguish it from other Latin American Constitutions.¹⁶⁶ The fourth of them *Suma Qamaña* (well-

¹⁶¹ Belize Wildlife Protection Act, Chapter 220, Revised as of 31 December 2000
<http://www.fao.org/faolex/results/details/en/c/LEX-FAOC006445> (last visited 3 May 2021).

¹⁶² *Id.* part II, § 3.

¹⁶³ *Id.* part II, § 5.

¹⁶⁴ As reported in Belize's Fifth National Report to the Convention on Biological Diversity p.21.

¹⁶⁵ Belize Wildlife Protection Act, part IV, § 16.

¹⁶⁶ CONSTITUCIÓN POLÍTICA DEL ESTADO PLURINACIONAL DE BOLIVIA [2009].

being), emphasizes the importance of harmonious relations between nature and human beings.¹⁶⁷ There is also a significant mention to the Rights of Mother Earth,¹⁶⁸ environmentally-sound management of natural resources¹⁶⁹ and species conservation¹⁷⁰ throughout its text, aside from more specific provisions as detailed below.

The Constitution recognizes the right to a healthy environment and the responsibility of the State to promote and guarantee the planned and responsible exploitation of natural resources in the country.¹⁷¹ It takes into account the wellbeing of current and future generations and the duty of all citizens to safeguard, defend and protect the natural heritage of Bolivia,¹⁷² extended to all native species in the country.¹⁷³ Notably, illegal possession, handling and trafficking of species are criminally sanctioned;¹⁷⁴ and environmental crimes are imprescriptible.¹⁷⁵ To ensure enforcement, the Constitution provides for the creation of an Agro-Environmental Tribunal¹⁷⁶ that can revise and decide on cases related to fauna and species conservation.¹⁷⁷ Any person, individually or representing a collectivity, may exercise legal claims in defense of the environment.¹⁷⁸

Legal level

¹⁶⁷ *Id.* art. 8.

¹⁶⁸ *Id.* Preamble.

¹⁶⁹ *Id.* art. 30, 342, 354, 374, 375.

¹⁷⁰ *Id.* art. 189, 311, 349, 381, 383, 387.

¹⁷¹ *Id.* art. 9, 342.

¹⁷² *Id.* art. 8.

¹⁷³ *Id.* art. 381.

¹⁷⁴ *Id.* art. 383.

¹⁷⁵ *Id.* art. 384.

¹⁷⁶ *Id.* art. 186 and 188.

¹⁷⁷ *Id.* art. 189.

¹⁷⁸ *Id.* art. 34.

The Bolivian Wildlife, National Parks, Hunting and Fishing Law¹⁷⁹ contemplates four types of hunting: subsistence, sport, commercial and scientific. A hunting license is required for all of them, and the activity may only be exercised with respect to animal species that are not forbidden, prohibited or protected¹⁸⁰ There is no exception for subsistence hunting¹⁸¹ and no provisions have been found to address human-jaguar conflict.¹⁸² Administrative sanctions applicable to illegal hunting¹⁸³ include: fines, confiscation of hunting equipment, animals and their products; in addition to arrest, when applicable.

Environmental crimes are provided for in the 1992 Bolivian Environmental Law.¹⁸⁴

Unauthorized hunting that threatens extinction of species is penalized with 1 to 3 years of jail time, and a fine equivalent to the value of the killings.¹⁸⁵ If the crime was committed within protected areas, the penalty may be aggravated up to a third, and the fine can be doubled. Similarly, trading, transport and gathering of these species may be penalized with up to two years of jail, and a fine equivalent to the value of the animals.¹⁸⁶ A crime against the environment can be penalized from 1 to 6 years in prison.¹⁸⁷

¹⁷⁹ Decreto Ley N° 12.301 Ley de Vida Silvestre, Parques Nacionales, Caza y Pesca, 14 March 1975 <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC026683> (last visited 3 May 2021).

¹⁸⁰ *Id.*, art 45 and 46.

¹⁸¹ As per Resolución Administrativa VMABCCGDF N° 014-2020, 22 April 2020, nutritious and medicinal consumption of wildlife is permanently banned in the country. Subsistence hunting is allowed for indigenous peoples that precede the Spanish colony.

¹⁸² Despite being addressed in the Resolución administrativa VMABCCGDF N° 049-20, 20 October 2020 – the Action Plan for the Conservation of Jaguars (2020) as one of the main threats to the species, there are no regulations concerning what actions should be taken in cases of human-carnivore conflict.

¹⁸³ *Supra* note 179.

¹⁸⁴ Ley N° 1333 – Ley del Medio Ambiente, 23 March 1992, Gaceta Oficial 15-06-1992.

¹⁸⁵ *Id.* art. 110.

¹⁸⁶ *Id.* art. 111.

¹⁸⁷ *Id.* art. 106 (applicable to crimes that destroy, deteriorate, subtract or export goods pertinent to the public domain, sources of wealth, monuments or objects of the patrimony; see also Verheij *supra* note 42).

Infra-legal level

Ministerial-level regulations in 1990 indefinitely banned the persecution, seizing, gathering and conditioning of wildlife and wildlife products (e.g., leather and fur, among others).¹⁸⁸ The ban may only be lifted for individual species following scientific studies and inventories; this exception is not applicable to endangered species. Bolivia established administrative procedures for the protection of species with the framework of CITES which includes approval of the list of protected species.¹⁸⁹ Individuals found trafficking animals and their products are subject to the penalties detailed above.

Bolivia approved an Action Plan for the Conservation of Jaguars in October 2020.¹⁹⁰

BRAZIL

Constitutional level

The Brazilian Constitution states that every citizen has the right to an ecologically balanced environment; the State is responsible for protecting the environment and preventing pollution in any of its forms.¹⁹¹ Behaviors and activities considered detrimental to the environment make the offenders worthy of criminal and administrative sanctions, regardless of the obligation of rectifying the damage caused.¹⁹² Finally, the Constitution foresees a class action procedure¹⁹³ in which any citizen has the legitimate right to bring a popular action against an act that is injurious to the environment.

¹⁸⁸ Decreto Supremo N° 22641, 8 November 1990, Gaceta Oficial N° 1671 26-11-1990; further ratified by Decreto Supremo N° 25458, 21 July 1999, Gaceta Oficial N° 2150 26-07-1999.

¹⁸⁹ Decreto Supremo N° 3048, 11 January 2017, 926 NEC 11-01-2017, title 1, ch 1, art. 5.1.

¹⁹⁰ Resolución administrativa VMABCCGDF N° 049-20, 20 October 2020.

¹⁹¹ CONSTITUIÇÃO FEDERAL [C.F.] [1988] art. 225. (BRAZ.)

¹⁹² *Id.* art. 225, para. 3.

¹⁹³ *Id.* art. 5.

Legal level

The use, pursuit, destruction, hunting or extraction of animals of any species constituting wildlife has been banned since 1967 by the Brazilian Hunting Code,¹⁹⁴ with the exception of subsistence hunting and people who obtain a hunting permit from the regional authority. It prohibits the trade of wildlife species, products or objects that would have required engaging in illegally hunting, pursuing, destroying or harvesting.¹⁹⁵ This is applicable for all wildlife, except for species included in a Statewide list of species whose hunting is allowed.¹⁹⁶ The Penal Code further penalizes the transport of items known to be of criminal origin such actions could result in imprisonment of 1 to 4 years or 3 to 8 if done in the course of commercial activity, but it is unclear if this has been applied to wildlife trafficking.¹⁹⁷

The criminal penalty for killing, hunting, catching and/or using any wildlife specimen without a license is detention from 6 months to 1 year and an administrative fine of unspecified amount, this also applies to trade without license.¹⁹⁸ Killing of a specimen considered rare or endangered (included on official lists of endangered Brazilian fauna or in CITES) increases the administrative fines in 50% their value.¹⁹⁹ These fines are set at R\$500 (\$96 USD) for species not included in the list of endangered species. For species that are, taking into account CITES, the fine is worth R\$ 5000 (\$962 USD).

Fines will be doubled if the infraction is practiced for lucrative purposes.²⁰⁰

¹⁹⁴ Lei N° 5.197, Diário Oficial da União N° 5.1.1967, art. 1. [hereinafter Brazilian Hunting Code]

¹⁹⁵ *Id.* art. 3.

¹⁹⁶ *Id.* art. 8.a

¹⁹⁷ Código Penal – Decreto-lei N° 2.848/1940, art. 180, §1 and 2, Diário Oficial da União, 31-12-1940; as modified by Decreto N° 6.514 DOU 23-07-2008.

¹⁹⁸ Lei N° 9.605/98, Diário Oficial da União, 13-02-1998, art. 29., §1 (III), at 29 [hereinafter the Environmental Crimes Law]

¹⁹⁹ Brazilian Hunting Code, art. 4.

²⁰⁰ Regulation for the Environmental Crimes Law –Decreto N° 6514, 22 July 2008, art. 24.

Infra-legal level

Jaguars are included in Brazil's endangered species list,²⁰¹ issued by the Minister of Environment. The breeding of big exotic cats is forbidden, and trade is restricted to transactions between zoos only, with imports banned.²⁰² These provisions are implemented in detail through the National Action Plan for the Conservation Jaguars,²⁰³ and the National Action Plan for the Conservation of Big Cats, which adopts human-carnivore coexistence and conflict prevention as one of its main goals.²⁰⁴

COLOMBIA

Constitutional level

The Colombian Constitution states the right of every person to a healthy environment,²⁰⁵ and the subsequent mandate for the State to protect the diversity and integrity of the environment.²⁰⁶ It creates a type of class action for the protection of the environment.²⁰⁷

Legal level

Hunting of wild carnivores, including *Panthera onca*, has been prohibited since 1973. Commercialization of individuals and products was banned at the same time.²⁰⁸

²⁰¹ Instrução Normativa MMA N° 3, 27/5/2003, DOU 28-05-2003; replaced by Portaria MMA N° 444 22/07/2020 DOU 24-07-2020 Lista Nacional Oficial De Espécies Da Fauna Ameaçadas De Extinção.

²⁰² Instrução Normativa IBAMA N° 175, 11/06/2008; DOU 07-12-2010.

²⁰³ Nacional para a Conservação da Onça-Pintada Brasil (2014), Portaria N° 63, 9 June 2014, DOU N° 116, 20-06-2014 [hereinafter The National Action Plan for Jaguars].

²⁰⁴ Nacional para a Conservação dos Grandes Felinos, Portaria N° 612, 22 June 2018 (2018), DOU N° 121, 26-06-2016, §1 at 45 [hereinafter The National Action Plan for the Conservation of Big Cats].

²⁰⁵ CONSTITUCIÓN POLÍTICA DE COLOMBIA [C.P., 1991], art. 79.

²⁰⁶ *Id.* art. 67.

²⁰⁷ *Id.* art. 88 (these class actions have been developed by Ley N° 472, Dada en Santa Fe de Bogotá, D.C., 05-08-1998, which contemplates the conservation of animal and plant species as one of the possible claims upon which a class action can be initiated).

²⁰⁸ Resolución N° 848 (1973) Dada en Bogotá, D.E., 06-08-1973.

Government issued licenses are required for all hunting methods²⁰⁹ (commercial, sports, control and promotion hunting), with the exception of subsistence hunting.²¹⁰

Purchasing hunted products of unverified legal origin is banned, as well as hunting and trading of individuals from forbidden species.²¹¹ In early 2019, a Colombian Constitutional Court banned *cotos de caza* (sports hunting grounds) countrywide, by modifying the applicable laws.²¹² The Court considered that sports hunting, given its recreational nature, conflicted with the constitutional principle of environmental protection. It also states that wildlife is an intrinsic part of the environment that Colombian citizens are called to protect, and making them available with the sole purpose of recreation contravenes said principle. Illegal hunting is considered a crime, punishable with 16 to 54 months of prison as well as a monetary sanctions ranging from 26.66 to 750 times the country's minimum monthly wages.²¹³ Illegal trafficking of wildlife is punishable with 4 to 9 years of prison, maximum fine of 35,000 with aggravated penalties for violations with threatened and endangered species.²¹⁴ Foreigners are subject to 5.33 to 12 years of imprisonment and up to 45,000 minimum monthly wages.²¹⁵ Minimum monthly wage for 2021 is \$908,526 Colombian Pesos (\$USD 245).²¹⁶

²⁰⁹ Decreto Ley N° 2811 - Código Nacional de Recursos Naturales Renovables y de Protección al Medio Ambiente, Dado en Bogotá, D.E. 18-12-1974, art. 252; Ley N° 84 - Estatuto Nacional De Protección De Los Animales, Dado en Bogotá, D.E. 27-12-1989, art. 30.b.

²¹⁰ Decreto Ley N° 2811 - Código Nacional de Recursos Naturales Renovables y de Protección al Medio Ambiente, Dado en Bogotá, D.E. 18-12-1974, art. 259.

²¹¹ *Id.* art. 265.

²¹² Colombia's Constitutional Court decision C-045/19, Court File D-12231. Claim of Inconstitutionality against of Decreto N° 2811 (1974), Articles 248 (partially), 252 (partially) and 256. Also against Law N° 84 (1989), Articles 8 (partially) and 30 (partially). The court resolved to eliminate the reference to private hunting grounds, otherwise known as *cotos de caza de propiedad particular*.

²¹³ Ley N° 599, art. 336 as modified by Ley N° 1453 2011 Diario Oficial N° 48.110, 24-07-2011 [hereinafter The Penal Code].

²¹⁴ The Penal Code, art. 328.

²¹⁵ *Id.* art. 329.

²¹⁶ Decreto N° 1785 Diario Oficial N° 51.542, 29-12-2020, as modified by Diario Oficial N° 51.635, 15-04-2021.

Infra-legal level

The most recent list of endangered wildlife species categorizes the jaguar as a vulnerable species,²¹⁷ facing a high risk of extinction in the wild.

COSTA RICA

Constitutional level

According to the Costa Rican Constitution, all persons have the right to a healthy and balanced environment.²¹⁸ Protecting the natural beauties of the country is one of the cultural goals of the State.²¹⁹

Legal level

A permit is required to carry out wildlife hunting in the country.²²⁰ Subsistence hunting is generally allowed for self-consumption, except for species considered endangered, threatened and with reduced populations;²²¹ which means subsistence hunting of jaguars is not permitted. Despite highly detailed procedures specified in the regulations for addressing potential human-wildlife conflict (see infra-legal level), Costa Rican law allows people to capture, control and –as last resource- eliminate an individual animal alleging imminent threat posed by a wildlife specimen to the integrity of people, with no retaliation.²²² Hunting is considered a wildlife crime.²²³ Equipment used in the crime may be confiscated, penalties include imprisonment for 1 to 3 years for endangered

²¹⁷ Resolución N° 1912, 15-09-2017, Ministerio De Ambiente y Desarrollo Sostenible, Diario Oficial N° 50.364, 22-09-2017.

²¹⁸ CONSTITUCIÓN POLÍTICA DE LA REPÚBLICA DE COSTA RICA [1949], art. 50.

²¹⁹ *Id.* art. 89.

²²⁰ Ley N° 7317, La Gaceta N° 235 07-12-1992, p10, art. 29 as modified through Ley N° 9106 La Gaceta N° 78, 24-04-2013 <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC003964> (last visited 5 May 2021).

²²¹ *Id.* art. 28.

²²² *Supra* note 220, art. 22.

²²³ *Id.* art. 111.

species or those with reduced populations and further 10 to 30 base salaries for 6 months to 1 year for crimes committed in a conservation area.²²⁴ Trade, transfers, and deals in wild animals, their products or derivatives penalized up to 40 times base salary and 3 years in prison.²²⁵ Public servants involved in said crimes receive an aggravated penalty, adding up to a third of the original. Judges may also decide to ban them from performing public functions for 4 to 12 years, notwithstanding additional administrative, civil and/or criminal penalties. Public servants that knowingly avoid prosecuting these crimes can be prosecuted for breaching their functions.²²⁶

Infra-legal level

Panthera onca is listed as endangered in the country's endangered species list.²²⁷ The capture, control, use, elimination or relocation of an animal, however, is allowed under a broad definition of self-defense that includes wildlife that causes damage in an ecosystem, agriculture, cattle raising and public health.²²⁸ A person that has been affected by wildlife can request the environmental authority to carry an inspection, estimate the damage and determine if there is reason to eliminate the animal. In such cases, the petitioner needs to provide a cost-benefit analysis and wait for the authority to decide the specific conditions under which elimination of the animal is approved.²²⁹

ECUADOR

Constitutional level

²²⁴ *Id.* art 91 (a-b)

²²⁵ *Id.* art 94, 95.

²²⁶ Ley 4573 del 1970, La Gaceta N° 257 15-11-1970, art. 332.

²²⁷ Costa Rican law provides that endangered species lists must be approved every two years. The most recent, Resolution R-SINAC-CONAC-092-2017, was passed in 2017.

²²⁸ *Id.* art. 28; In addition, human-wildlife coexistence is developed in detail through Section 1 of Decreto Ejecutivo N° 40548-MINAE (2017), La Gaceta N° 150 09-08-2017, Reglamento a la Ley de Conservación de la Vida Silvestre.

²²⁹ Decreto Ejecutivo N° 40548-MINAE del 2017, La Gaceta N° 150 09-08-2017, art. 26 to 30.

The Ecuadorian Constitution provides that Nature (*Pacha Mama*) has intrinsic right to respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes.²³⁰ The State shall prevent species extinction²³¹ and guarantee its citizens' right to live in a healthy, ecologically balanced and free of pollution environment in harmony with nature.²³² The Ecuadorian Constitution provides for the imprescriptibility of legal actions to prosecute and sanction environmental damages.²³³

Legal level

Hunting of threatened, endangered or migratory wildlife species is prohibited.²³⁴ Breeding, possession or commercialization of exotic or native wildlife or its constituent parts are also banned.²³⁵ Hunting, seizing, trading and exploiting wildlife are considered very serious infractions if carried out without authorization and over migratory, endemic or any other form of threatened wildlife. These actions are punished with the confiscation of the species and, when applicable, with the destruction of constituent elements, products or their derivatives.²³⁶ Subsistence hunting is allowed by indigenous peoples and communities within their territories, for consumption, medicinal and traditional purposes only. There are no provisions limiting use of endangered species.²³⁷ Hunting, capture, transportation, trafficking or commercialization of threatened, endangered and migratory species are considered crimes punishable with 1 to 3 years of

²³⁰ CONSTITUCIÓN DE LA REPÚBLICA DEL ECUADOR [20 October 2008], Chapter 7 (The Constitution grants intrinsic rights to Nature including its right to restoration, independent from the obligation of the State and citizens to compensate the individuals or groups who depend on the affected natural systems.)

²³¹ *Id.* art. 277.

²³² *Id.* art. 66.

²³³ *Id.* art. 396.

²³⁴ Código Orgánico del Medio Ambiente (2017), Registro Oficial N° 983 – Suplemento, 12-04-2017, art. 70.

²³⁵ *Id.* art. 147.5.

²³⁶ *Id.* art. 318.2 and 320.2-3.

²³⁷ Decreto Ejecutivo N° 752 (2019), Reglamento al Código Orgánico del Medio Ambiente, Registro Oficial N° 507 12-06-2019, art. 211.

imprisonment and a penalty of three to eight Unified Basic Salaries,²³⁸ in 2021 the base UBS is \$400 USD.²³⁹

Infra-legal level

Ecuador has a conservation action plan for jaguars that has been approved by the government.²⁴⁰ Trading of native, endemic, threatened or migratory wildlife species that are removed directly from their natural habitat is forbidden.²⁴¹ Native, endemic, threatened or migratory species have a higher degree of protection among wildlife. They are specified in the code with provisions for regular updates.²⁴² In case of doubt regarding a species' degree of threat, the category ensuring the highest degree of protection shall prevail.²⁴³

FRENCH GUIANA

Constitutional level

French Guiana adheres to the Constitution of France²⁴⁴ through which it receives authority for the management of environmental issues.²⁴⁵ The Constitution permits the adaptation of all statutes and regulations to the local setting of each territory.²⁴⁶ In 2005,

²³⁸ Penal Code (2014), art. 70.6, 247.

²³⁹ Ministerial Agreement N° MDT-2020-249 (2020)

²⁴⁰ Acuerdo Ministerial N° 114. Registre Oficial Edición Especial N° 982 28 March 2017; Ministerio del Ambiente and Wildlife Conservation Society. 2014. PLAN DE ACCIÓN PARA LA CONSERVACIÓN DEL JAGUAR EN EL ECUADOR (2014)

https://s3.amazonaws.com/WCSResources/file_20171122_120503_2014_Ecuador-National-Jaguar-Plan_DrLkK.pdf?AWSAccessKeyId=AKIAJ6EG375ZDL3DG3EA&Expires=1653924940&response-content-disposition=attachment%3B%20filename%3D%222014_Ecuador-National-Jaguar-Plan.pdf%22&response-content-type=application%2Fpdf&Signature=ouyfb8k0b42JuOGQ4z8kxH7qfkg%3D (last visited 5 May 2022).

²⁴¹ Decreto Ejecutivo N° 752 (2019), art. 105.b.

²⁴² *Id.*, art. 88 (a-f); Resolución N° 105 Registro Oficial N° 5, 28-01-2000; Acuerdo Ministerial No. DM-2020-069 Ministro del Ambiente 23-07-2019, disposiciones 2.

²⁴³ Reglamento al Código Orgánico del Medio – Decreto Ejecutivo N° 752 (2019), art. 87 and 88.

²⁴⁴ LA CONSTITUTION DE LA RÉPUBLIQUE FRANÇAISE [1958].

²⁴⁵ *Id.* Title XII, art. 72.

²⁴⁶ *Id.* Title XII, art. 73.

France adopted the Charter for the Environment, providing a right to a balanced environment.²⁴⁷ The amendment invokes the precautionary principle as a means to “forestall future environmental degradation” and to act immediately to protect the environment.²⁴⁸ A legal challenge siding with the Charter placed environmental rights at the same level as human rights.²⁴⁹

Legal level

The French Ministry of the Environment and the French Ministry of Agriculture oversee the French Office for Biodiversity (Office Français de la Biodiversité, OFB).²⁵⁰ The OFB has the responsibility to implement public biodiversity policies, from heritage monitoring to environmental policing in France and through regional offices in overseas territories.

At the National level, species are assigned to different levels of protection in French Guiana.²⁵¹ Jaguars are listed in Article 2 of the law, which prohibits the transport, sale and purchase of items from those species at all times throughout the territory of French Guiana,²⁵² but permits destruction, capture, removal of species as long as the goal is not to trade and export the species. By contrast, Article 1 prohibits destruction, capture, removal of species as well as the transport, sale and purchased of items from those species. The fourth class offence of capturing or killing of a jaguar in French Guiana

²⁴⁷ Dominique Bourg & Kerry H. Whiteside. *France's Charter for the Environment: Of Presidents, Principles and Environmental Protection*, 15 MOD. & CONTEMP. FRANCE, 2, 117 (2007). DOI:10.1080/09639480701299921

²⁴⁸ Bourg & Whiteside, *supra* note 247, pg127-128

²⁴⁹ David Marrani. *The Intersection between Constitution, Human Rights and the Environment: The French Charter for the environment and the new ex post constitutional control in France*. 16 ENVIRONMENTAL LAW REVIEW, 2, 107 (2014).

²⁵⁰ Code de L'environnement, art. L110-1.

²⁵¹ Arrêté du 15 mai 1986, Journal Officiel 25-06-1986, art. 1.

²⁵² *Id.* art. 1 and 2.

may have a maximum fine of 750€ (\$919 USD).²⁵³ The punishment may include confiscation of items used in the offence (e.g., suspension of a driver's license) provided it does not exceed the maximum fine.

The transportation of wildlife with the ultimate goal of trade is considered a more serious crime and perpetrators risk a maximum of 3 years' imprisonment and 150 000€ fine (\$183,956 USD).²⁵⁴ The fine will be doubled when these offenses are committed inside of a National Park or National Nature Reserve.²⁵⁵ If the infractions occur in association with an organized crime group, the punishment increases to a maximum of 7 years in jail and a 750,000€ fine (\$919,779 USD).²⁵⁶ Additionally, if a person is convicted of an offence under this article, the court may charge that person with the costs incurred by authorities up to the maximum fines permitted for the capture, taking, custody or destruction of the specimens.

Infra-legal level

Prefectural Decrees can be more easily modified or changed according to Prefect policy, however the process to change a Ministerial Decree is relatively long and complicated.²⁵⁷ Although there is a quota of zero for hunting jaguar and puma, in the case of repeated attacks on domestic animals, authorized public can capture the

²⁵³ Code de L'environnement, art. R.415-2 as modified by Décret N° 2017-176 JO 13-02-2017, art. 2; Code Pénal Loi 92-683 as modified by Loi N° 2005-47 JO 27-01-2005, art. 131-13

²⁵⁴ Code de L'environnement, art. L.415-3 as modified by Loi N° 2019-773 02-07-2019; Ivano Alogma ENVIRONMENTAL LAW OF FRANCE (2018).

https://www.researchgate.net/publication/328391897_Environmental_Law_of_France (last visited 4 May 2021); see also Floriana Bianco, Annalisa Lucifora, Grazia Maria Vagliasandi. *Fighting Environmental Crime in France: A Country Report*. (2015)

²⁵⁵ Code de L'environnement, art. L415-3 as modified by Loi N° 2019-773 02-07-2019

²⁵⁶ Code de L'environnement, art. L415-6 as modified by Loi N° 2016-1087 08-08-2016, art.129.

²⁵⁷ Marie-Luce Paris, Julie Foulon, Hugo-Bernard Pouillaude, Julien Sterck. CONSTITUTIONAL LAW IN FRANCE (2019).

responsible animal and move it.²⁵⁸ Legal hunting of jaguar is permitted as this Prefectural Decree does not apply to the Amazonian National Park, in the southern part of French Guiana and in the “Zones of Common Use Rights” outside the Park which provide for the traditional uses of these areas by the Indigenous Peoples.²⁵⁹ Quotas exist for many jaguar prey species and as of 1 January 2020 all hunters are obligated to obtain hunting permits in French Guiana.²⁶⁰

GUATEMALA

Constitutional level

As per the Guatemalan Constitution of 1986 the conservation, protection and improvement of its natural heritage is classified as of national interest.²⁶¹ The State and citizens are obligated to promote social, economic and technological development that prevents pollution and maintains ecological balance.²⁶²

Legal level

Subsistence and sports hunting are allowed only under a State-issued license that must be renewed annually.²⁶³ The State, through the national parks authority –*Consejo Nacional de Areas Protegidas (CONAP)*, must approve a yearly update with the list of species over which hunting is forbidden.²⁶⁴ Appendices I and II of CITES are

²⁵⁸ L'arrêté n°583/DEAL du 12 avril 2011, art. 6

²⁵⁹ *Id.* art 1; Isabelle Tritsch, Cyril Marmoex, Damien Davy, Bernard Thibaut, Valéry Gond. *Towards a Revival of Indigenous Mobility in French Guiana? Contemporary Transformations of the Wayãpi and Teko Territories*. 34 BULL. LATIN AM. R., 1, 19 (2015). 10.1111/blr.12204.hal-01135244

²⁶⁰ Office Française de la Biodiversité, Plaquette “Quotas d’espèces animales” <https://guyane.ofb.fr/documentation/brochures-depliants/> (last visited 4 April 2020).

²⁶¹ CONSTITUCIÓN DE LA REPÚBLICA DE GUATEMALA [1986], art. 64.

²⁶² *Id.* art. 97.

²⁶³ Decreto N° 36-04 Ley General de Caza, Diario de Centro América N° 75 22-12-2004, art. 6 and 11.

²⁶⁴ *Id.* art. 21.

considered official and binding for Guatemala;²⁶⁵ therefore, jaguars must be considered endangered in applicable legislation.

The protection of endemic species is considered urgent and of national necessity.²⁶⁶ The capture, hunting, transport, exchange, trade and export of endangered fauna and flora species is banned, and so is the free export and trade of those extracted from nature.²⁶⁷

The commercialization of any hunted animals, alive or dead, its products and byproducts, is forbidden throughout the national territory.²⁶⁸ The collection, transportation, trade or export of dead or living specimens and their derivatives are punished with 5 to 10 years of imprisonment and a fine ranging from 10 000 to 20 000 quetzals (\$1,258 to \$2,516 USD).²⁶⁹ Hunting without a license or in breach of it can be sanctioned with 1 to 5 years of imprisonment. If the actions take place in a protected area or national park, the penalty may be increased by a third.²⁷⁰

Infra-legal level

Any of the above-listed offenses can entail the suspension of a hunting license. In case of recidivism, the hunter's register (whether for sports or subsistence hunting) can be cancelled for up to 5 years.²⁷¹ As per the country's Endangered Species List,²⁷² jaguars

²⁶⁵ Decreto N° 4-89 Ley de Áreas Protegidas, Diario de Centro América N° 64 10-02-1989, art. 25 (Cases in which Guatemala has submitted an express reservation of the agreement are excluded. However, to this date Guatemala has not entered any reservation to the CITES).

²⁶⁶ *Id.* art 23.

²⁶⁷ *Id.* art 26, art 27.

²⁶⁸ *Supra* note 263, art 22.

²⁶⁹ *Supra* note 265, art 81 and 82.

²⁷⁰ Decreto N° 17-73 Reforma al Código Penal, Diario de Centro América 05-11-2018, art. 347.

²⁷¹ Acuerdo Gubernativo No. 84-2007 Reglamento De La Ley General De Caza, Diario de Centro América N° 59 12-04-2007. (Provides for the non-observance of provisions established in the General Hunting Law, Criminal Code, Law of Protected Areas or the General Hunting Law).

²⁷² Resolución de Secretaría Ejecutiva de CONAP SC. No. 01/2009 02-03-2009 Diario De Centro América N° 17 29-06-2009 (Jaguars are listed as Category N° 2 or Seriously Endangered, equivalent to a listing of CITES I. For more information see CONAP, Lista de especies amenazadas de Guatemala y Listado de especies de flora y fauna silvestres CITES de Guatemala, Documento Técnico 67, 2nd ed. 2009).

may be used for scientific or reproduction purposes. Commercial purposes are not forbidden but require regulation through technical management plans. An environmental assessment is required for their use in protected areas.

GUYANA

Constitutional level

As per the Constitution of Guyana, the well-being of the nation depends upon preserving clean air, fertile soils, pure water and the rich diversity of plants, animals and ecosystems.²⁷³ The State shall protect the environment for the benefit of present and future generations, declaring that all Guyanese have the right to an environment that is not harmful to their health or well-being.²⁷⁴

Legal level

Species included in Appendix I of CITES, including jaguar, are deserving of special protections in Guyana.²⁷⁵ Permits and certificates are required to carry the import, export, or re-export of any of said specimens.²⁷⁶

Anyone who kills, harms, or injures a wild animal in a national protected area, without a permit and not in the exercise of a traditional right, commits an offence and is liable to a fine of not less than 75,000 Guyanese dollars nor more than 300,000 Guyanese dollars.²⁷⁷ If the animal belongs to a species considered endangered, vulnerable or

²⁷³ CONSTITUTION OF THE COOPERATIVE REPUBLIC OF GUYANA [1980], art. 26.

²⁷⁴ *Id.* art. 149.

²⁷⁵ Wildlife Conservation and Management Act N° 22 of 2016 The Official Gazette 05-10-2016 Legal Supplement A; Part II, art. 3. (This Act's schedules list the species included in CITES appendixes as deserving of national protection. The Act goes beyond and establishes that its schedules are automatically amended when amendments to CITES enter into force)

²⁷⁶ *Id.* art. 27 (1), 6th Schedule.

²⁷⁷ Protected Areas Act N° 14 of 2011, art. 118, 4th schedule P(b).

<http://www.fao.org/faolex/results/details/en/c/LEX-FAOC172057> (last visited 4 May 2021).

threatened, the fine increases to not less than 75,000 and not more than 500,000 Guyanese dollars (\$2,350 USD).²⁷⁸ The same penalty is applicable for parts, products and byproducts of said species.²⁷⁹ Unlawful trade of jaguars is banned and penalized with a fine of not less than \$750,000 Guyanese dollars (\$3,525 USD) nor more than \$2,000,000 Guyanese dollars (\$9,400 USD) and imprisonment for not more than three years.²⁸⁰ Moreover, when the offender is a corporation, it shall be liable to twice the maximum penalty and twice the provided imprisonment term.

Infra-legal level

In addition to formally adopting CITES lists, the wildlife regulations also provide specific protected status for wildlife; jaguar is classified as vulnerable²⁸¹ Stipulations for special uses of wildlife and licenses are specified in the regulations.²⁸² These also detail what to do in the case of nuisance wildlife, including legal killing in self-defense provided adequate justification.²⁸³

HONDURAS

Constitutional level

Environmental protection is noted under the section on human health, establishing that the State is responsible for maintaining an environment that's adequate to protect it.²⁸⁴

²⁷⁸ *Id.* art 119, 4th schedule P(c).

²⁷⁹ *Id.* art. 120, 4th schedule P(c).

²⁸⁰ *Supra* note 275, art. 32, 6th schedule. (a-c).

²⁸¹ Wildlife Conservation, Management and Sustainable Use Regulations N° 28/2019, The Official Gazette N° 327 Legal Supplement B -09-02-2019,

²⁸² Wildlife Conservation, Management and Sustainable Use Regulations N° 28/2019, The Official Gazette N° 327 Legal Supplement B -09-02-2019, 1st Schedule (Part III).

²⁸³ *Id.* art. 20.(1-8)

²⁸⁴ CONSTITUCIÓN DE LA REPÚBLICA DE HONDURAS [1982], art. 145; (Note that the constitution has been modified over twenty times since its promulgation.)

Legal level

Hunting, seizing and trading of protected species is forbidden.²⁸⁵ Jaguars are considered endangered by an infra-legal level regulation (see below), therefore hunting of their species should be deemed unlawful.

Hunting or seizing of protected species with commercial purposes is contemplated as an administrative infraction subject to a fine of 1,000 to 1,000,000 Lempiras (\$40 to \$40,829 USD).²⁸⁶ As for criminal offenses: Honduras new Criminal Code came into force in 2019. Commercial trade of endangered species or their parts is six months to three years imprisonment and a fine of 50 to 300 *días-multa* – meaning someone can be penalized with a sum equivalent to between 50 and 300 days of their income.²⁸⁷ Illegal capture or hunting is sanctioned with 6 months to 2 years of imprisonment, and a fine of 50-200 *días-multa*.²⁸⁸ If the animal is an endangered species, penalties can increase by one third.²⁸⁹ Other aggravating circumstances include: hunting in protected areas, organized crime and being a public officer.²⁹⁰ When two or more aggravating circumstances are found, sanctions can be increased in 2/3.²⁹¹ When the offender is a corporation, penalties can be tripled.²⁹²

Infra-legal level

The status of species listed as endangered in CITES, the IUCN Red Book, and species of national protection determines their eligibility for use under different

²⁸⁵ Ley General del Ambiente Decreto N° 104-93, Diario Oficial N° 27083 30-06-1993, art. 41.

²⁸⁶ *Id.*, art. 96.

²⁸⁷ Nuevo Código Penal Decreto N° 130-2017, Diario Oficial 34,940 10-05-2019, art 330.

²⁸⁸ *Id.* art. 331.

²⁸⁹ *Id.* art. 332.

²⁹⁰ *Id.* art. 333, 336.

²⁹¹ *Id.* art. 333.

²⁹² *Id.* art. 337.

authorizations.²⁹³ This is relevant as licenses are required for hunting activities (including subsistence, sport, scientific or control), and for seizing and capture of parts, derivatives and complete specimens.²⁹⁴ The lists of threatened, endangered and endemic species shall be published every three years; however none have been officially approved.

Families that request authorization to carry subsistence hunting are subject to screening through a socioeconomic diagnostic performed by a regional ICF office.²⁹⁵ A special provision dictates that subsistence hunting is not allowed in relation to endemic or endangered species.²⁹⁶ No such provision is explicit for sports or scientific hunting, but it is our interpretation that the same restrictions apply. Hunting Farms (*Fincas Cinegéticas*), where sports hunting is carried on animals that were bred with this purpose are provided for and allow for establishments working with endangered CITES species. Private collections of exotic and dangerous animals are also provided for.²⁹⁷

Below-legal level

Honduras has a management plan for jaguars that has not been officially approved.²⁹⁸

MÉXICO

²⁹³ Acuerdo ICF N° 045-2011, Diario Oficial N° 32,763 03-03-2012, art. 4 and 7. Before the Instituto de Conservación Forestal, Áreas Protegidas y Vida Silvestre [ICF], the competent authority was Departamento de Áreas Protegidas y Vida Silvestre de la Corporación Hondureña de Desarrollo Forestal - COHDEFOR as is *supra* note 285.

²⁹⁴ Acuerdo ICF N° 045-2011, Diario Oficial N° 32,763 03-03-2012, art. 7.

²⁹⁵ *Id.* art. 15.

²⁹⁶ *Id.* art. 18

²⁹⁷ *Id.* art. 59, 83, 99.

²⁹⁸ ICF. 2011. PLAN NACIONAL PARA LA CONSERVACIÓN DEL JAGUAR (*PANTHERA ONCA*); PROMOVRIENDO LA CONVIVENCIA COMUNIDAD – JAGUAR Departamento de Vida Silvestre/ Instituto Nacional de Conservación y Desarrollo Forestal, Áreas protegidas y Vida Silvestre- Proyecto Ecosistemas- Fundación Panthera. Tegucigalpa. 29p.

Constitutional level

The Mexican Constitution recognizes and guarantees the right of every individual to a healthy environment for their own development and well-being. Individuals who cause environmental decay will be held responsible for their actions.²⁹⁹

Legal level

Mexico has a general environmental protection sets the framework and distribution of powers for governing natural resources.³⁰⁰ Accompanying legislation specifically addresses wildlife and regulates its conservation and use.³⁰¹ Any activities using individuals or species populations threatened with extinction or extinct in the wild are prohibited,³⁰² with stricter sanctions for those involving any species listed under a category of risk as per the National Red List (see infra-legal level).³⁰³ Hunting of wildlife is permitted under strict regulation. However, the administration must deny an extractive use permit if it involves endangered or threatened species.³⁰⁴ Wildlife trafficking –including capture, possession, transport, collection, or extraction of wildlife– is considered a crime. Trafficking species deserving special protection or regulated by an international treaty in which Mexico is a member, the sanction ranges from 1 to 9 years of imprisonment. Similarly, damaging any wildlife species within the limits of a natural protected area carries an aggravating sanction of up to 3 more years

²⁹⁹ CONSTITUCIÓN POLÍTICA DE LOS ESTADOS UNIDOS MEXICANOS, CPEUM, Diario Oficial de la Federación [DOF] 05-02-1917, últimas reformas DOF 10-02-2014., art. 4.

³⁰⁰ Ley General del Equilibrio Ecológico y la Protección al Ambiente (1996), Diario Oficial de la Federación [DOF] 13-12-1996, últimas reformas DOF 04-06-2012 [hereinafter LGEEPA].

³⁰¹ Ley General de Vida Silvestre, Diario Oficial de la Federación [DOF], últimas reformas DOF 03-07-2000, [hereinafter LGVS];

³⁰² LGVS, art. 47, bis 3.I, 94 and 122.

³⁰³ National Red List approved by Reglamento de la Ley General De Vida Silvestre, DOF 30-11-2006.

³⁰⁴ LGVS, art. 47, bis 3.I.

in prison, and an estimated 1,000 *días-multa* –meaning someone can be penalized with a sum equivalent to a thousand days’ worth of their income.³⁰⁵

Infra-legal level

Jaguars are listed as endangered in Mexico.³⁰⁶ In this context, any activities involving jaguars are prohibited and no permit will be issued if the activity involves individuals of the species.³⁰⁷ Regulations require the development and implementation of conservation programs for a subset of priority species including jaguar.³⁰⁸

Below-legal level

Although Mexico has a jaguar action plan that is recognized by the public and staff at SEMARNAT, it is not officially approved.³⁰⁹

NICARAGUA

Constitutional level

The Nicaraguan Constitution contemplates the right to a healthy environment, along with the obligation to preserve and conserve the environment. As a condition for wellbeing, it refers to Mother Earth as the supreme and universal common good, calling for its understanding as a live being with dignity rights.³¹⁰

³⁰⁵ Federal Criminal Code (14 August 1931), art. 420. IV.

³⁰⁶ Reglamento de la Ley General De Vida Silvestre, DOF 30-11-2006; Norma Oficial Mexicana NOM-059-SEMARNAT-2010 DOF 30-12-2010, Anexo Normative III.

³⁰⁷ As outlined in the preceding, our interpretation follows from LGVS art. 47 Bis 3.I, 94 and 122.

³⁰⁸ LVGS, art. 62 (Publishes agreement establishing the list of priority species and population for conservation; this list is different from the list of species at risk.)

³⁰⁹ Secretaría de Medio Ambiente y Recursos Naturales & Comisión Nacional de Áreas Naturales Protegidas. PROGRAMA DE ACCIÓN PARA LA CONSERVACIÓN DE LA ESPECIE: JAGUAR (PANTHERA ONCA). Gobierno Federal (2009).

³¹⁰ CONSTITUCIÓN POLÍTICA DE LA REPÚBLICA DE NICARAGUA [Con.] La Gaceta N° 32 18-02-2014, tit. VIII, ch. III, Texto de la Constitución Política de la República de Nicaragua con sus Reformas Incorporadas (The provisions referring to Mother Earth were added to the original text of the 1987 Constitution by Ley N° 854 29-01-2014, La Gaceta N° 26 10-02-2014 following the Universal Declaration of Common Good for Humanity, ratified by Nicaragua.)

Legal level

The general environmental law gives the Ministry of Environment and Natural Resources the authority to determine the list of endangered, threatened or protected species.³¹¹ Jaguar hunting has been banned indefinitely in Nicaragua (see below, for infra-legal level). Following the ratification of CITES, the country banned commercial hunting of all wildlife.³¹² Intended exports of jaguar skins, along with other protected animals, are sanctioned with a fine of 2,000 Córdoba (\$57 USD) for each skin.³¹³ Hunting of specimens listed as endangered species by international conventions is considered an environmental crime sanctioned with 2 to 4 years of imprisonment, and a fine ranging from \$1,000 to \$5,000 USD, or its equivalent in Córdoba.³¹⁴ Fines can be doubled if hunting is performed in natural protected areas. Trading of endangered species listed in CITES can be sanctioned with a fine ranging from \$2,000 to \$10,000 USD, or its equivalent in Córdoba).³¹⁵ Repeat offenders can face 6 months to 1 year of imprisonment.³¹⁶

Infra-legal level

The Nicaraguan Ministry of Environment and Natural Resources rules over authorized uses of wildlife,³¹⁷ by approving yearly quotas and hunting bans on specific species.³¹⁸

³¹¹ Ley N° 217, La Gaceta N° 20, 31-01-2014, art. 76.

³¹² Ley N° 625, La Gaceta N° 106, 16-05-1977.

³¹³ *Id.* art. 5.

³¹⁴ Ley N° 559 La Gaceta N° 225 21-11-2005, art. 27 (Lists the crimes against the environmental and natural resources and states the penalties in USD).

³¹⁵ *Id.* art. 28

³¹⁶ *Id.*

³¹⁷ In application of Ley N° 217, La Gaceta N° 20, 31-01-2014, art. 71, 81 [hereinafter The General Law of the Environment and Natural Resources]

³¹⁸ Resolución N° 007-99 (La Gaceta N° 109 09-06-1999) establishes the ban system; Decreto Ejecutivo N° 9-96 (La Gaceta N° 163 29-08-1996) art. 47 approves the Regulations for the General Law for Environment and Natural Resources. Combined, arts 46, 47, 60, 61 and 102 and Decreto Ejecutiva N° 8-98, art. 8 (i) and art. 19 (La Gaceta N° 27 10-02-1998) provide for the annual publication of the updated CITES species list. See also René Castellón, *Review of Nicaragua's wildlife trade policy, final report*. MINISTERIO DEL AMBIENTE Y LOS RECURSOS NATURALES (2008). As written, the legal language implies CITES lists as the standard species list however we could not find a decree or resolution that officially approves any specific list.

Jaguars are among the species that are banned from hunting indefinitely thus prohibiting all hunting, capture, use and transportation of specimens, parts, products and derivatives of a certain species.³¹⁹

PANAMÁ

Constitutional level

The Panamanian Constitution recognizes the right to a healthy and pollution-free environment, to satisfy the requirements for the adequate development of human life.³²⁰

Furthermore, its text mentions that the State must ensure the rational use of fauna and natural resources, to prevent their depredation and ensure their preservation, renewal and permanence.³²¹

Legal level

The capture, collection, transport and trade of wild species, parts, products and by-products is prohibited unless carried out under authorization of the State.³²² Hunting of jaguars is forbidden, given that the species is categorized as endangered by an infra-legal level law (see below).³²³ Killing of a specimen in contravention to the above is penalized with a fine of 100 to 1,000 balboas (\$100 to \$1,000 USD),³²⁴ with increasing rates of up to 5,000 balboas (\$5,000 USD) when against endangered species, or in fraud of the benefit of subsistence hunting. Trafficking specimens of wildlife without

³¹⁹ As we could confirm from the last update, approved by Resolución Ministerial N° 12-2021 La Gaceta N° 35 19-02-2021, jaguars have been under this category at least since 2008, as determined by Resolución ministerial N° 003-2008, La Gaceta N° 37 21-02-2008.

³²⁰ CONSTITUCIÓN POLÍTICA DE LA REPÚBLICA DE PANAMÁ (1972), art. 118. (The Constitution has an entire chapter dedicated to ecological regulations, Chapter 7).

³²¹ CONSTITUCIÓN POLÍTICA DE LA REPÚBLICA DE PANAMÁ (1972), art. 120.

³²² Ley N° 24/1995, Gaceta Oficial N° 22801 09-06-1996, art 15, 38, 40. (Authorization shall be granted by the Instituto Nacional de Recursos Naturales Renovables - *INRENARE*).

³²³ *Id.* art. 58. (In conjunction with Resolución N° DM-0657-2016 Gaceta Oficial N° 28187-A 29-12-2016, that establishes the list of threatened fauna and flora species of Panama).

³²⁴ *Id.* art 61, 62.

permission is punished with imprisonment from 6 months to 2 years, and 180 to 365 *días-multa*. The weapons and equipment used in the commission of the crimes shall be confiscated, as well as wildlife products, by-products, parts or derivatives obtained. The repeated violation of this provision shall be punishable with twice the penalty previously imposed on the offender.³²⁵ Criminal sanctions for hunting endemic, vulnerable, threatened or endangered species without a permit range from 2 to 4 years of imprisonment; increased by up to 50% if performed within a natural protected area. Trafficking of endemic, vulnerable, threatened or endangered species entails 3 to 5 years of imprisonment, with the option of reducing the sanction if the specimens are restored to their habitat without harm before the initiation and investigation phase is concluded.³²⁶

Infra-legal level

The Ministry of the Environment, through the Department of Biodiversity and Wildlife within the Directorate of Protected Areas and Wildlife is responsible for the process to establish a list of threatened fauna and flora species of Panama that will presumably replace the species list created and approved in 2008³²⁷ which classifies jaguars as endangered.

Below-legal level

Panama created an action plan in 2011, however the plan has not been officially approved.³²⁸

³²⁵ *Id.* art. 66, 67, 70.

³²⁶ Ley N° 14 de 2007 Gaceta Oficial 26519 26-04-2010, art. 409, 410.

³²⁷ Resolución N° DM-0657-2016 Gaceta Oficial N° 28187-A 29-12-2016, Resolución N° AG-0051-2008 Gaceta Oficial N° 26013 07-04-2008.

³²⁸ Department de Biodiversidad y Vida Silvestre. PLAN DE ACCIÓN PARA LA CONSERVACIÓN DE LOS JAGUARES EN PANAMÁ. Gobierno Nacional & Autoridad Nacional del Ambiente (2011).

PARAGUAY

Constitutional level

The Paraguayan Constitution³²⁹ contemplates the right to a healthy environment and a balanced environment; adding environmental preservation, conservation, recomposition and improvement as prioritized goals.

Legal level

Through the Jaguar Conservation Law (2014), *Panthera onca* was declared as threatened and Congress ordered the Environmental Secretariat (*Secretaría del Ambiente - SEAM*) to approve four regulations: a management plan, a special protection zoning, an intervention protocol for cases in which an animal could be considered as a threat to safety, and a public awareness campaign.³³⁰

A government authorization is required for hunting, transportation, trade, exports and imports of wildlife species, their products and by products.³³¹ Illegal hunting is punishable by 1-5 years of imprisonment, confiscation of any instruments used to commit the crime and a penalty in the amount of 500 -1500 days of legal income (*jornales mínimos legales*).³³² Illegal trade or commercialization of wildlife incurs similar prison time and up to 1500 days of legal income.³³³ Hunting of jaguars is

³²⁹ CONSTITUCIÓN DE LA REPÚBLICA DEL PARAGUAY [1992], art. 7.

³³⁰ Ley N° 5302/Conservación de la Panthera onca 13-10-2014 <https://www.bacn.gov.py/leyes-paraguayas/4512/ley-n-5302-conservacion-de-la-panthera-onca> (last visited 4 May 2021) [hereinafter Jaguar Conservation Law]. (All provisions contained in the law shall complement those of the country's Wildlife Law Ley No. 96/92 11-12-1992 <http://www.fao.org/faolex/results/details/fr/c/LEX-FAOC042388/> (last visited 4 May 2021)[hereinafter Wildlife Law] and Environmental Crimes Law Ley N° 716/96 Gaceta Oficial N° 50 02-05-1996 [hereinafter Environmental Crimes Law]).

³³¹ Wildlife Law, art. 37

³³² Environmental Crimes Law, art. 6.

³³³ *Id.* art 5.

considered a forbidden activity and adds an additional penalty of 2,000 -5,000 days of legal income over the previously referred penalties.³³⁴ An offender can also be mandated to perform restoration activities in order to compensate damages caused to the species. Paraguay has created a National *Panthera Onca* Conservation Fund, to be funded by donations, national budget resources and sanctions.³³⁵

Infra-legal level

Jaguars are protected in Paraguay.³³⁶

Below-legal level

A 10-year *Jaguareté* Management Plan was created in 2017 but never approved by the SEAM at that time.³³⁷ A new Minister established a technical commission in 2020 that will review and update the plan for future approval based on communications with individuals who are part of the commission (personal communication, M. Fleytas Wildlife Conservation Society, Paraguay Country Program Director, 18 December 2020). There is emphasis in focusing management plan updates on cattle ranchers – the main threat to jaguar conservation in the country.

PERÚ

Constitutional level

³³⁴ Jaguar Conservation Law, art. 5

³³⁵ *Id.* art. 6.

³³⁶ Resolution N° 632/17 (2017) 01-12-2017

<http://mades.gov.py/sites/default/files/users/comunicacion/632.pdf> (last visited 4 May 2021).

³³⁷ Secretaría del Ambiente, Wildlife Conservation Society Paraguay & Itaipu Binacional, 2016. PLAN DE MANEJO DE LA PANTHERA ONCA, PARAGUAY 2017-2026. 1era. Edición. Asunción, Paraguay. 90 pp.

According to the Peruvian Constitution, every person has the right to enjoy a balanced environment, adequate for their personal development.³³⁸ Natural resources are considered national patrimony, over which the State is sovereign and obliged to promote the conservation of biological diversity and natural protected areas.³³⁹

Legal level

Peru contemplates four kinds of hunting: subsistence, commercial, sports and falconry.³⁴⁰ Infra-legal level regulations (see below) mandate that a license is needed to carry out any one of them, except for subsistence hunting. Trading of forest and wildlife products requires appropriate government documentation that proves their legal origin.³⁴¹ If these conditions are breached, applicable administrative sanctions³⁴² range between one and fifty tax units,³⁴³ plus confiscation of the instruments used to commit the offence, as well as suspension or cancellation of the permit or authorization, as applicable.

Illegal hunting and trading are considered environmental crimes subject to three to five years of imprisonment, additionally punishable with 180 to 400 *días-multa* – a sanction

³³⁸ CONSTITUCIÓN POLÍTICA DEL PERÚ [1993], art. 2.22

³³⁹ *Id.* art. 66, 68

³⁴⁰ Ley N° 29763/2011 Diario Oficial N° 44680 22-07-2011, art. 102, 105 [hereinafter Forestry and Wildlife Law]; see also the law's regulations Decreto Supremo N° 019-2015-MINAGRI Diario Oficial 30-09-2015, art 76.

³⁴¹ Forestry and Wildlife Law, art. 121; Ley N° 30407/2016 Diario Oficial N° 574725 08-01-2016, art. 24 [hereinafter Animal Welfare and Protection Law]

³⁴² Animal Welfare and Protection Law, art 30.1 (Classifies the actions mentioned in art 24,30.3, and provides for the applicable administrative sanctions. The sanctions are applied in accordance with the principle of reasonableness established in Ley N° 27444, 08-04-91, art. 30 <https://diariooficial.elperuano.pe/pdf/0005/13-texto-unico-ordenado-de-la-ley-27444-ley-de-procedimiento-administrativo-general-1.pdf> (last visited 4 May 2021)).

³⁴³ Tax units are set legal fees determined at the start of every fiscal year. The value of a Peruvian tax unit for the year 2021 is 4400 Soles (USD \$1207); almost three times the country's minimum monthly salary.

relative to the daily income of the offender.³⁴⁴ Imprisonment times can increase to a range of four to seven years if specimens are protected by national legislation, were extracted from natural protected areas, land occupied or titled in favor of indigenous communities, or if the offender is a public servant, uses explosives or toxic substances.³⁴⁵

Infra-legal level

The national forest and wildlife authority is currently the *Servicio Nacional Forestal y de Fauna Silvestre* (SERFOR).³⁴⁶ SERFOR is in charge of sustainable use, conservation protection and management of forest resources (wild flora and fauna), including: identification of critical habitats, listing species by their state of conservation, passing conservation plans, promoting ecosystem recovery and agroforestry systems, among other functions.³⁴⁷ All forms of hunting require an authorization by SERFOR, except for subsistence hunting. Commercial hunting cannot be authorized over threatened species and/or those listed in Appendix I of CITES or CMS.³⁴⁸ Given that jaguars are listed as near-threatened,³⁴⁹ it is excluded from commercial hunting. However, only species listed as Endangered or Critically Endangered are fully excluded from the practice of sports hunting;³⁵⁰ a provision that would allow for sports hunting of jaguars. There is a loophole in the legal framework that allows sports hunting of vulnerable species within

³⁴⁴ Decreto Legislativo N° 635/1991 03-04-91, art 308-C. 308-D (Illegal wildlife hunting and trade were introduced by means of Artículo Único del Decreto Legislativo N° 1237, 26-09-2015). [http://www2.congreso.gob.pe/sicr/cendocbib/con5_uibd.nsf/001CD7E618605745052583280052F800/\\$FILE/COD-PENAL_actualizado_16-09-2018.pdf](http://www2.congreso.gob.pe/sicr/cendocbib/con5_uibd.nsf/001CD7E618605745052583280052F800/$FILE/COD-PENAL_actualizado_16-09-2018.pdf) (last visited 4 May 2021).

³⁴⁵ *Id.* art. 309.

³⁴⁶ Decreto Supremo N° 019-2015-MINAGRI Diario Oficial 30-09-2015, art. 32.

³⁴⁷ *Supra* note 344, art. 39

³⁴⁸ *Supra* note 346, art 77, 78; subsistence hunting of endangered species, carried out by peasant and native communities, is regulated by maximum quotas approved by the National Forestry and Wildlife Authority (SERFOR).

³⁴⁹ *Supra* note 346. (This instrument was approved 10 years after its predecessor, despite a regulation that mandated it needed to be updated every three years. The Forestry and Wildlife Law, art. 110 mandates these lists shall be updated every four years).

³⁵⁰ *Supra* note 346, art. 84.

hunting grounds (*cotos de caza*), as long as the management plan for the area contemplates conservation and recovery of the species.³⁵¹

In the case of human-carnivore conflict,³⁵² people are required to inform the regional forest authority when wildlife affects agriculture or ranching. If wildlife poses an imminent danger to their life or safety, people are allowed to use firearms or other means of self-defense, and must inform the authority within 48 hours for the remains to be disposed by them.

SURINAME

Constitutional level

According to the Constitution, the State shall identify the potential for development of its own natural environment and work to create and improve the necessary conditions for the protection of nature and preservation of the ecological balance.³⁵³ Natural resources are the property of the nation and shall be used to promote economic, social and cultural development.³⁵⁴

Legal level

Killing and trading of protected animals is forbidden in Suriname, and so is in-country trading of protected animals parts and products.³⁵⁵ There are four categories of wild animals, namely protected animals, game species, caged species and predominantly

³⁵¹ *Supra* note 346, art. 84 (Contemplates three groups of species subject to sports hunting. It excludes species categorized as Endangered and Critically Endangered only. Management plans for hunting grounds are approved by regional authorities, provided that the national forest and wildlife authority (SERFOR) grants a favorable opinion).

³⁵² *Supra* note 346, art. 105.3

³⁵³ GRONDWET VAN SURINAME [1987], art. 6. (The Constitution of the Republic of Suriname).

³⁵⁴ *Id.* art. 41.

³⁵⁵ Wet van 3 april 1954 (Jachtwet 1954), art. 2, 3. (G.B. 1954 N° 25) [Hunting Law 1954]

harmful species. Six species of wild felines are considered fully protected in Suriname, jaguars among them.³⁵⁶ Violations of provisions contained within the Hunting Act (1954) are felonies; intentional violations are punishable up to 6 years of imprisonment, or a fine of up to 1,000,000 guilders (\$70 USD), nonintentional violations up to 4 years of prison and 500,000 guilders (\$35 USD).³⁵⁷ With the exception of killings that were deemed necessary for the direct protection of a person or their property.³⁵⁸ No exceptions allow for subsistence hunting of protected species.³⁵⁹

The country further specifies conditions under which killing of animals in the course of hunting or slaughter for food may be permissible and provides for State decrees to determine the treatment of animals, where and how they can be killed.³⁶⁰ A violation of these provisions are punishable with up to two years of imprisonment plus a fine, the law further differentiates felonies and misdemeanors related to the ethical treatment of animals.³⁶¹

UNITED STATES

Constitutional level

The United States is one of two countries with a legal system based on common law within jaguar range. The U.S. Constitution provides little direct guidance on the

³⁵⁶ Jachtbesluit 2002 - S.B. 2002 N° 116 27-12-2002 (Contains rules for the implementation of articles 1, 6, 8, 10, 11, 13, 23 and 23a of the Hunting Law 1954 as last amended by S.B. 1997 N° 33 Official Gazette of the Republic of Suriname N° 116. Paramaribo. See also *Tough measures in case of violation of hunting law Harde maatregelen bij overtreding Jachtwet*. Suriname Herald. 3 October 2017. <https://www.srherald.com/suriname/2017/10/03/harde-maatregelen-bij-overtreding-jachtwet/> (last visited 3 March 2021)).

³⁵⁷ Wet economische delicten 09-01-1986, art. 4 as it stands after subsequent modification S.B. 1989 N° 42, S.B. 1992 N° 80, S.B. 2002, N° 67.

³⁵⁸ The Hunting Law 1954, art. 16

³⁵⁹ Pauline Verhij. AN ASSESSMENT OF WILDLIFE POACHING AND TRAFFICKING IN BOLIVA AND SURINAME (2019).

³⁶⁰ Wet Dieren Welzijn 2017 G.B. N° 4 16-01-2017, art. 6

³⁶¹ *Id.* art. 25

protection of the environment and or governance of natural resources.³⁶² Environmental actions within all three branches of the U.S. government underscore the federal authority to protect the environment. These protections have been tested through case law primarily under three sections of the U.S. Constitution - the Commerce Clause³⁶³ the Treaty Power³⁶⁴ and the Property Clause.³⁶⁵

Legal level

The Lacey Act of 1900 became the first federal law to prohibit trade, interstate transport, sale or purchase of wildlife and plants in violation of U.S. federal, state and foreign laws.³⁶⁶ The law covers all fish and wildlife and their parts or products, as well as plants, covered by CITES and applicable state laws. The Act requires all U.S. citizens to abide by all foreign laws protecting wildlife and makes it an offense to take, possess, transport or sell wildlife and other protected plant and animal species in violation of those laws.³⁶⁷ Violation of the Lacey Act results is punishable by a maximum \$10,000 USD civil fine. Criminal penalties may include a maximum \$20,000 USD fine and/or a maximum of five years' imprisonment. Defendants must forfeit any equipment and means of transportation involved in a criminal violation (including boats, aircraft, and vehicles) and may have all permits or licenses, as well as future import/export privileges, immediately revoked.

³⁶² Meyer R. *supra* note 96; U.S. CONST.

³⁶³ Meyer, *supra* note 362; U.S. CONST. art. I, §8, cl. 3.

³⁶⁴ James E. Krier, *Environmental Regulation and the Constitution* (2019).

<https://www.encyclopedia.com/politics/encyclopedias-almanacs-transcripts-and-maps/environmental-regulation-and-constitution> (last visited 5 March 2021); U.S. CONST. art. II, §2, cl. 2.

³⁶⁵ Krier, *supra* note 364; U.S. CONST. art IV, §3, cl. 2.

³⁶⁶ 16 U.S.C. §§ 3371–3378.

³⁶⁷ *Id.* (Note the Lacey Act was amended in the Food, Conservation, and Energy Act of 2008 (P.L. 110–234, 122 Stat. 923) and expanded to include timber and timber products.)

The Endangered Species Act (ESA), passed by Congress in 1973 provides a framework for the conservation of endangered and threatened species of fish, wildlife and plants in the United States.³⁶⁸ It also outlines the steps necessary to comply with international treaties and conventions the U.S. has adopted, including CITES; thus, a violation of CITES is considered equal to a violation of the ESA. The ESA forbids federal agencies from authorizing, funding or carrying out actions that may “jeopardize the continued existence of” endangered or threatened species in the U.S. and other countries. With certain exceptions, the ESA protects endangered and threatened species from extinction by prohibiting the importing, exporting, taking, possessing, selling, and transporting of such species. It also prohibits the destruction of designated critical habitat. Any import, export, or re-export of species listed on the ESA or CITES must be accompanied by the appropriate permit, and international commercial trade in CITES Appendix I species is prohibited. With respect to jaguar, the species was listed as *endangered* in the United States July 1997.³⁶⁹ More than 300,000 hectares of critical habitat for jaguars in the United States was designated by the USFWS in 2014 and included in their Jaguar Recovery Plan, published in 2019. The critical habitat designation was later challenged and deemed invalid by the courts in 2020.³⁷⁰

ESA provisions are enforced through the use of citizen suits, imprisonment, fines, and forfeiture. For civil violations, the maximum penalty of a “knowing” violation is \$50,000 per violation; for non-knowing violations the fine can reach \$1,200.³⁷¹ No

³⁶⁸ 16 U.S.C. §1531 et seq.

³⁶⁹ USFWS *Jaguar Recovery Plan (Panthera onca)*. U.S. FISH AND WILDLIFE SERVICE, Southwest Region, Albuquerque, New Mexico (2018); previously jaguar had been designated only south of the US-Mexico border.)

³⁷⁰Id.; USFWS *supra* note 369; Laura Bies. *Court rejects jaguar critical habitat designation*. WILDLIFE SOC. 25 March 2020 <https://wildlife.org/court-rejects-jaguar-critical-habitat-designation/> (last visited 4 May 2021).

³⁷¹ FR Doc. 2018–02769.

penalties are assessed in cases of self-defense where evidence indicates the defendant is believed to have acted in good faith to protect his/herself, a member of his/her family, or any other person from bodily harm from any listed species.³⁷² For criminal violations, such as trafficking, the penalty is a \$100,000 fine and a maximum of one year in jail for each violation.³⁷³ Violations not resulting in an illegal take may net \$25,000 fines and/or six months in jail. Convictions can result in forfeiture of vehicles, computers, and cameras and other equipment that were used in the violations.³⁷⁴ Loss of federal hunting and fishing privileges as well as the suspension of agreements, permits, and federal grazing leases also may result. Outside of Native Alaskans and non-native permanent residents of Alaska Native villages, courts have ruled that as long as federal and state restrictions on hunting rights is not an explicit abrogation of treaty rights, then hunting restrictions related to protected species apply.³⁷⁵ All other relevant legal materials are at the state level in Arizona and New Mexico.³⁷⁶

Below-legal level

The U.S. Fish and Wildlife Service signed the Jaguar Recovery Plan in July 2018.³⁷⁷

The document details the legal status in the United States and Mexico, population

³⁷² 16 U.S.C. §1531 et seq.

³⁷³ Environmental Law Institute. Wildlife. <https://www.eli.org/keywords/wildlife> (last visited 8 January 2020).

³⁷⁴ 16 U.S.C. §1531 et seq.

³⁷⁵ See Jami K. Elison, Tribal Sovereignty and the Endangered Species Act, 6 WILLAMETTE J. INT'L L. & DIS. RES. 131 (1998).

³⁷⁶ Beyond the scope of this paper but see USFWS, *supra* note 369, at 49 for detailed laws in Arizona and New Mexico; note that both states are members of the Interstate Wildlife Violator Compact whereby wildlife law violations conducted by a non-resident while in a member state may be handled as if the person were a resident in the state where the violation took place

³⁷⁷ USFWS *supra* note 369 (The recovery plans includes some specifications for human-wildlife conflict but given standing rulings of Recovery Plans not being legally binding, we indicate the U.S. as not having approved human-wildlife conflict regulations in Table 2.)

trends, critical habitats and the overall recovery strategy however recovery plans for species are presently considered non-binding.³⁷⁸

VENEZUELA³⁷⁹

Constitutional level

The Venezuelan Constitution establishes the right and duty of every generation to protect and maintain the environment. The State is responsible for protecting the environment, biological diversity, genetic resources, ecological processes, national parks, among others.³⁸⁰

Legal level

Hunting of wildlife is allowed for license holders.³⁸¹ Licenses are only available for the hunting of species on the official list of hunting species (see Infra-legal level).

Administrative sanctions applicable to illegal hunting and commercialization of wildlife include fines, retention of equipment, the hunted animals, its products and byproducts.³⁸² These violations are penalized with 3 to 5 years of imprisonment, or a fine of 3,000-5,000 tax units.³⁸³ Although the Biological Diversity Management law makes protection of endemic, rare, unique, vulnerable, threatened or endangered species a priority of the State, jaguars have relatively few protections in Venezuela.³⁸⁴

³⁷⁸ FRIENDS OF THE WILD SWAN, INC. V. DIR. OF THE U.S. FISH & WILDLIFE SERV., No. 17-35572, §II, P5 (9th Cir. Aug. 22, 2018).

³⁷⁹ Most states in the region recognize Juan Guaidó's presidency as legitimate, but our review did not find any relevant wildlife laws passed by his government; therefore, our analysis focuses on the Constitution and laws that predated his term.

³⁸⁰ Constitución de la República Bolivariana de Venezuela [1999], art.127.

³⁸¹ Ley de Protección a la Fauna Silvestre Gaceta Oficial N° 29.289, 11-08-1970, art. 9

³⁸² *Id.* art. 101; (Administrative sanctions are imposed by the Ministry of Environment and Natural Renewable Resources.)

³⁸³ Ley Penal del Ambiente, Gaceta Oficial N° 39.913, 02-05-2012, art. 77. (One tax unit as of 13 March 2020 = 1500 Venezuelan Bolivar Soberano, \$0.001 USD).

³⁸⁴ Ley de Gestión de la Diversidad Biológica Gaceta Oficial N° 39.070 01-12-2008.

Infra-legal level

The Venezuelan legal framework provides that the Ministry of Environment and Renewable Natural Resources must pass an official list specifying which species can be hunted;³⁸⁵ jaguars are included on the list.³⁸⁶ Despite being listed as a species that can be hunted, jaguars first appeared on the list of Game Species under Total Protection in 1970.³⁸⁷ As of this writing, jaguars are listed as endangered north of the Meta and Orinoco rivers.³⁸⁸ As such, jaguars are listed as not eligible for hunting north of the Meta and Orinoco rivers.³⁸⁹ That said, jaguars have not appeared on hunting calendars since 1974 and therefore hunting licenses cannot be issued anywhere in the country.³⁹⁰ Species not included in the official list of animals that can be hunted are subject only to scientific hunting, control hunting and to promote breeding activities – provided that the hunter obtains a license first.

³⁸⁵ Reglamento de la Ley de Protección a la Fauna Silvestre, Decreto N° 3.269, Gaceta Oficial N° 5.302, 29-01-1999.

³⁸⁶ Resolución N° 109 Gaceta Oficial N° 37.566, 8-11-2002, art. 1.

³⁸⁷ Resolución R.N.R-5-299, Gaceta Oficial 12-12-1970 as described in Edgardo Mondolfi & Rafael Hoogesteijn. NOTES ON THE BIOLOGY AND STATUS OF THE JAGUAR IN VENEZUELA (Cats of the World: Biology, Conservation, and Management; S. Douglas Miller & Daniel D. Everett, eds, 1986) at 116.

³⁸⁸ Presidencia de la República Decreto No 1.486. Gaceta Oficial de La República de Venezuela N° 36.062, 10-10-1996.

³⁸⁹ Presidencia de la República Decreto N° 1.485, Gaceta Oficial de La República de Venezuela N° 36.059, 07-10-1996

³⁹⁰ Rafael Hoogesteijn & Edgardo Mondolfi. Observaciones sobre la situación poblacional y legal del jaguar (*Panthera onca*) en Venezuela (1987). Memorias de la 62ª Reunión de la Comisión de Supervivencia de Especies SSC-IUCN, FUDENA y MARNR. 50.