

# Conservation Action Plan for Ecuadorian Primates: Process and Priorities

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**Abstract:** The 2015 assessment of the conservation status of the Neotropical primates reported that 91 species and subspecies (42.5%) are threatened. This highlights the need to establish priority actions to mitigate the threats caused by human activities and promote the conservation of their populations and habitats. Ecuador is fifth-ranking of the Neotropical countries in terms of primate richness, with 22 taxa, 11 of which are threatened. Ongoing conservation actions need to be improved and new ones need to be designed. In this context, we are drawing up a Conservation Action Plan for the primates of Ecuador, which brings together the main organizations and experts involved in the study of Ecuadorian primates. The plan builds on previous work done by the organizations involved, and will be periodically modified and updated taking into account new information as it is generated. The multidisciplinary approach of this initiative was a key factor in promoting the fulfillment of the goal of this action plan, which is to reduce the extinction risk of the threatened primates in Ecuador, and generate information to properly assess species currently listed as Data Deficient before 2027. This plan is not only important for the information it presents, but also because it is a clear example of what can be achieved when the government, academia and society work together towards the common goal of improving the conservation status of Ecuadorian primates and their habitats.

**Key Words:** assessment, Ecuador, endangered, hotspot, Neotropical primates

Primates are unique, not only for their diversity, anatomical adaptations, social systems and ecological roles, but also for the threats they face (Garber and Estrada 2009; Estrada *et al.* 2017). An evaluation of the conservation status of the Neotropical primates conducted by the IUCN SSC Primate Specialist Group in 2015, reported 42.5% of threatened primates in the region (total taxa = 214, IUCN SSC in prep.). This emphasizes the need to establish priority actions to diminish the threats and promote the conservation of their populations and habitats, including strategies at the national and regional

levels (for example, Jerusalinsky *et al.* 2011, Escarlate-Tavares *et al.* 2016 in Brazil, and Mexico, SEMARNAT 2012).

Ecuador is the fifth country of the region in terms of primate richness, with 22 taxa, 11 of which are categorized as threatened and nine Near Threatened (Table 1) (Tirira 2017). There are ongoing initiatives aiming at improving the conservation status of the primates of Ecuador, such as the project being implemented by the Ministry of Environment that focuses on key species of conservation concern (four of which are primates), and which aims at increasing the efficiency of

**Table 1.** National conservation status of the primate species of Ecuador (Tirira 2017).

	CR	EN	VU	NT	LC	DD	NE
<i>Cebuella pygmaea pygmaea</i> <sup>1</sup>			x				
<i>Leontocebus lagonotus</i> <sup>2</sup>				x			
<i>Leontocebus nigricollis graellsii</i> <sup>3</sup>			x				
<i>Leontocebus tripartitus</i> <sup>4</sup>			x				
<i>Cebus aequatorialis</i> <sup>5</sup>	x						
<i>Cebus capucinus capucinus</i>		x					
<i>Cebus yuracus</i> <sup>6</sup>				x			
<i>Sapajus macrocephalus</i> <sup>7</sup>				x			
<i>Saimiri cassiquiarensis macrodons</i> <sup>8</sup>				x			
<i>Aotus lemurinus</i>						x	
<i>Aotus vociferans</i>				x			
<i>Cheracebus lucifer</i> <sup>9</sup>			x				
<i>Plecturocebus discolor</i> <sup>10</sup>				x			
<i>Pithecia milleri</i> <sup>11</sup>				x			
<i>Pithecia napensis</i> <sup>12</sup>				x			
<i>Pithecia aequatorialis</i> *							x
<i>Alouatta palliata aequatorialis</i>		x					
<i>Alouatta seniculus seniculus</i>				x			
<i>Ateles belzebuth</i>		x					
<i>Ateles fusciceps fusciceps</i>	x						
<i>Lagothrix lagothricha lagothricha</i> <sup>13</sup>		x					
<i>Lagothrix lagothricha poeppigii</i> <sup>14</sup>		x					
Total	2	5	4	9	0	1	1

CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern, DD = Data Deficient, NE = Not Evaluated. 1. Evaluated as *Callithrix pygmaea*. 2. Evaluated as *Saguinus fuscicollis*. 3. Evaluated as *Saguinus graellsii*. 4. Evaluated as *Saguinus tripartitus*. 5. Evaluated as *Cebus albifrons aequatorialis*. 6. Evaluated as *Cebus albifrons cuscinus*. 7. Evaluated as *Cebus macrocephalus*. 8. Evaluated as *Saimiri sciureus*. 9. Evaluated as *Callicebus lucifer*. 10. Evaluated as *Callicebus discolor*. 11. Evaluated as *Pithecia monachus*. 12. Evaluated as *Pithecia aequatorialis*. 13. Evaluated as *Lagothrix lagothricha* and 14. Evaluated as *Lagothrix poeppigii*. \* Included in the primate action plan based on one captive individual found in Enkerido, an indigenous village in the Pastaza province, which is thought to have been captured in Ecuador (Tirira 2017).

protected areas through a landscape management approach. Implementation of the CITES convention and other national laws also aim to protect and reduce the threats facing endangered species; yet no primate specific strategy has been established for the conservation of this order in the country.

We can better understand the extent of the impact of the anthropogenic activities on the conservation status of the Ecuadorian primates if we consider that Ecuador is the country with the highest population density in South America (approx. 55 inhabitants/km<sup>2</sup> [Ecuador, INEC 2015]), and also presents one of the highest deforestation rates in South America, estimated between 70,000 and 190,000 ha per year (FAO 2010; Ecuador, Ministerio del Ambiente 2013). Water availability, flat

terrain and fertile soil have been key factors for the increase in agricultural development along the coastal region, which has caused unparalleled levels of deforestation (Buitron 2001; Sierra 2001; Mosandl *et al.* 2008). Furthermore, hunting and traffic of living primates are having detrimental effects on the primate populations of Ecuador, increasing their risk of extinction (de la Torre *et al.* 2007; Dew *et al.* 2003; WCS 2006; Zapata-Ríos 2001; Zapata-Ríos *et al.* 2009; Tirira 2013). This is partly because laws regarding wildlife should be clearer and better enforced. Hunting, possession and trade of primates in the national territory is banned (Decreto Ejecutivo No. 3516), while subsistence hunting and traditional medical use in indigenous territory are allowed (Código Orgánico Integral Penal

article 247). In this context, the need to develop a conservation action plan for the primates of Ecuador was an urgent challenge (de la Torre 2012; Jack and Campos 2012).

In mid-2016, we carried out the first meetings to define the timeline, the main stakeholders and institutions that had to be involved in the process of developing this plan, and the potential funding sources. The “Workshop for the Elaboration of the Conservation Action Plan for the Primates of Ecuador” took place from 28–30 November 2016 at the Pontificia Universidad Católica del Ecuador, Quito (see Appendix). This initiative brought together the main organizations and experts involved in the study of Ecuadorian primates. The workshop built upon the information on primate species included in the Red Book of Endangered Mammals of Ecuador (Tirira 2011), updated with information from the specialists working on each species, in order to identify the main threats and gaps of knowledge.

This initiative was supported by the Ministry of Environment of Ecuador, through the project “Landscapes and Wildlife Conservation,” of the Global Environmental Facility (GEF), United Nations Development Programme (UNDP), Wildlife Conservation Society (WCS), the Asociación Ecuatoriana de Mastozoología (AEM), Conservation International (CI), Bioparc de Doué la Fontaine, Fundación Mamíferos y Conservación, Universidad San Francisco de Quito (USFQ), and Pontificia Universidad Católica del Ecuador (PUCE).

The workshop included oral presentations, discussion sessions and plenaries of fifteen institutions and researchers, which presented the advances and needs in different study areas. Eighteen talks were given on various topics, including distribution, ecology and conservation status of the Ecuadorian primates, main threats, lessons learned from previous action plans, theoretical and legal bases of animal rights, veterinary procedures, and planning of strategic action plans.

The proposed strategies integrated the vision of the different participants and enabled the identification of priority actions that could significantly contribute towards the goal of effectively decreasing the extinction risk of every primate species by one level of the IUCN ranking, and generating relevant information to properly assess those species listed as Data Deficient before 2027 in Ecuador. To achieve these objectives, we defined the following strategic areas: (1) creation of protected areas and the strengthening of the management of the existing ones; (2) mitigation of human impacts; (3) species management; (4) regulations; (5) research; (6) environmental education; and (7) implementation of conservation strategies. For each of those areas, specific actions were established considering the conservation status and specific threats for each species.

The multidisciplinary approach of this plan will require the internalization of these lines of action into the working agendas of the different institutions involved in primate conservation in Ecuador. The benefits of following the same criteria towards the conservation of the primates of Ecuador are countless, as all efforts will sum for the same objective. Additionally, it will increase the possibility of involving actors that

have not been taken into account, and will improve cooperation between organizations.

The Conservation Action Plan for the Primates of Ecuador has been planned for a period of 10 years (until 2027), with an evaluation that will take place in the middle of the process, five years after its approval. The aim of this evaluation is to assess the efficiency of the strategies defined and to consider the need to adapt the objectives and actions as well as to discuss new strategies to promote their implementation. Although the plan will only be official when the Ministry of Environment recognizes it as a public document, updated information on the different species is already being generated and will be included in the plan. Experts are also updating protocols regarding captive population management and rehabilitation to improve those existing and better systematize the procedures.

This plan is important not only for the information it presents and the actions it promotes, but also because it is a clear example of what can be achieved when the government, academia and society work together towards the common goal of improving the conservation status of Ecuadorian primates and their habitats. While the plan contemplates all Ecuadorian primates, it was clear during the workshop that the species inhabiting the coastal region deserve special attention because of the critical situation they are facing, mainly because of habitat fragmentation and isolation, which increase the risk of extinction. Although effectively achieving the main objective of this plan seems ambitious, it brings with it the opportunity of collaboration between institutions, unifying efforts, and increasing efficiency and effectiveness in the implementation of conservation actions. We believe this is the only way to ensure the protection of Ecuador's primates.

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## Appendix 1

Agenda of the “Workshop for the Elaboration of the Conservation Action Plan for the Primates of Ecuador”.



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## PLAN DE ACCIÓN PARA LA CONSERVACIÓN DE LOS PRIMATES DEL ECUADOR

### Taller de especialistas

28 a 30 de noviembre de 2016

### Agenda

Hora	Lunes 28
08:30	Registro de asistentes. Hall de piso 1, edificio de Biología
09:00	Inauguración y palabras de bienvenida: <ul style="list-style-type: none"> <li>• Santiago Burneo (Director de la Escuela de Biología, PUCE)</li> <li>• Santiago Silva (Director Nacional de Biodiversidad, Ministerio del Ambiente del Ecuador)</li> <li>• Luis Suárez (Director de Conservación Internacional-Ecuador)</li> <li>• Víctor Utreras (Coordinador Nacional del Proyecto Paisaje - MAE/PNUD/GEF)</li> </ul>
09:20	Presentación de los asistentes. Modera: Diego G. Tirira
09:45	Mecánica del taller. Modera: Diego G. Tirira
<b>Introducción</b>	
09:50	Conferencia: Una revisión al estado de conocimiento de los primates del Ecuador [Diego G. Tirira (Grupo de Estudio de los Primates del Ecuador - GEPE, Asociación Ecuatoriana de Mastozoología - AEM y Fundación Mamíferos y Conservación)]
10:50	<b>Receso</b>
11:20	Conferencia: Guías de los Planes de Manejo para Especies de UICN [Stephanie Arellano (UICN-Sur)]
11:40	Conferencia: Lecciones aprendidas del Plan de acción para la conservación de los murciélagos del Ecuador [M. Dolores Proaño & Santiago Burneo (PUCE)]
12:00	Conferencia: Planeamiento estratégico para la conservación de los primates en Brasil: avances y desafíos [Leandro Jerusalinsky (Ministério do Meio Ambiente, Brasil)]
13:00	<b>Almuerzo</b>
<b>Sesión normativa y marco legal (matriz código N)</b>	
14:00	Conferencia: Primates: ¿especies protegidas por la ley? [Hugo Echeverría (abogado ambiental, Quito)]
14:20	Conferencia: Los primates, sujetos del derecho ecuatoriano [Joan Correa Paredes (Secretaría Técnica de Cooperación Internacional)]
14:40	Plenaria y discusión (Matriz código N)
15:40	<b>Receso</b>
16:00	Plenaria y discusión (Matriz código N) (continuación). Conclusiones
17:30	<b>Fin de jornada</b>





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### Taller de especialistas

28 a 30 de noviembre de 2016

### Agenda

Hora		Martes 29
		Exposiciones
09:00		Conferencia: Situación actual de los Primates Mexicanos: Modelos como herramientas de conservación [Francisca Vidal-García (Instituto de Ecología A.C., Xalapa, Veracruz, México)]
09:45		Conferencia: Efectos de la fragmentación en <i>Cebuella pygmaea</i> y <i>Alouatta palliata</i> [Stella de la Torre (GEPE/AEM y Universidad San Francisco de Quito - USFQ)]
10:15		Conferencia: Estacionalidad en Primates: monitoreo de especies de primates en la Reserva Biológica Colonso Chalupas [Sara Álvarez Solas (GEPE/AEM y Universidad Ikiam)]
10:35		Conferencia: Aspectos taxonómicos y ecológicos de <i>Cebus aequatorialis</i> (Primates: Cebidae) en el Ecuador [María Fernanda Solórzano (GEPE/AEM y MAE Proyecto Paisaje)]
10:55		Receso
11:30		Conferencia: Investigación participativa en la conservación de primates: El caso de los parabiólogos de la Reserva Tesoro Escondido y la conservación de <i>Ateles fusciceps</i> [Citlallei Morelos-Juárez (GEPE/AEM y Fundación Cambugán)]
11:50		Conferencia: Cacería y conservación de los primates en el Ecuador [Galo Zapata Ríos (WCS)]
12:10		Conferencia: Tráfico de primates nativos en el Ecuador [Diego G. Tirira (GEPE/AEM y Fundación Mamíferos y Conservación)]
		Sesión áreas protegidas y prioritarias (código AP) y estudios científicos (código EC)
12:30		Formación de grupos de trabajo para la tarde
12:40		Almuerzo
14:00		Análisis y discusión en grupos de trabajo: Grupo 1: Áreas protegidas y prioritarias para la conservación (matriz código AP). Modera: Diego G. Tirira Grupo 2: Estudios científicos necesarios (matriz código EC). Modera: Stella de la Torre
15:40		Receso
16:00		Presentación de resultados de grupos de trabajo y conclusiones
17:30		Fin de jornada



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## PLAN DE ACCIÓN PARA LA CONSERVACIÓN DE LOS PRIMATES DEL ECUADOR

### Taller de especialistas

28 a 30 de noviembre de 2016

### Agenda

Hora	Miércoles 30
	Exposiciones
09:30	Conferencia: Acciones estratégicas para la conservación de los primates Mexicanos [Francisca Vidal-García [Francisca Vidal-García (Instituto de Ecología A.C., Xalapa, Veracruz, México)]]
10:15	Conferencia: Retos en la conservación de primates de la Costa ecuatoriana y las posibles soluciones [Nathalia Fuentes S. & Felipe Alfonso-Cortes (GEPE/AEM y Proyecto Washu)]
10:35	Conferencia: Estado de conservación de las poblaciones de <i>Ateles fusciceps fusciceps</i> en Flavio Alfaro: adaptación o supervivencia [Laura Cervera (GEPE/AEM)]
10:55	Receso
11:30	Conferencia: Tenencia de primates como mascotas por las comunidades Chachi: estudios de caso e implicaciones para la conservación del críticamente amenazado mono araña de la Costa [María Isabel Estévez (GEPE/AEM)]
11:50	Conferencia: Análisis de primates nativos tratados en el Hospital veterinario de la USFQ [Andrés Ortega (USFQ)]
	Sesión educación ambiental (código EA) y control de impactos (código C)
12:10	Formación de grupos de trabajo
12:15	Análisis y discusión en grupos de trabajo: Grupo 1: Educación ambiental (matriz código EA). Modera: Felipe Alfonso-Cortes Grupo 2: Control de impactos (matriz código C). Modera: Diego G. Tirira
13:00	Almuerzo
14:00	Análisis y discusión en grupos de trabajo (continuación)
15:00	Presentación de resultados de grupos de trabajo y conclusiones
15:30	Receso
	Sesión planes de manejo (código PM) y otros (código O)
16:00	Plenaria y discusión. Modera Diego G. Tirira
17:30	Palabras finales y cierre de taller

