# Brown Howler Monkey *(Alouatta guariba clamitans)*

Brown howlers are one of the endemic primate species of the Atlantic Forest. In Argentina, the brown howler monkey (*Alouatta guariba clamitans*) has been re-classified from “endangered” to “critically endangered” and included in the national list of the most threatened mammal species. One of the primary threats to this species is yellow fever, an acute viral disease spread by mosquitoes. Find out more on the IUCN Red List.

Yellow fever decimated the howler population throughout its southern distribution during an outbreak in 2008-2009. Due to the suspected high impact of these epidemics, there is a special concern about the current status of the brown howler, which is the rarest monkey species in Argentina, restricted to Eastern Misiones.


*Contact: Dr. Ilaria Agostini (CeIBA, IBS sede Iguazú UNaM-CONICET)*
*agostini.ilaria@gmail.com.*

## Key Actions

*In 2013, the Brown Howler Monkey Conservation Workshop Population Viability Assessment (PVA) workshop was held to establish conservation priorities for this species and its habitat in Argentina. Eleven specialists (primatologists, epidemiologists, mosquito ecologists), examined the current knowledge and situation of brown howlers in Argentina and nearby areas of Brazil, and named the following actions as integral in the survival of this species in Argentina.* ***Click on the text in the table below to learn more details about each action.***

| |
|---|
| Implement a regular surveillance system for alerting suspected yellow fever outbreaks in monkeys and people. |
| Estimate the population abundance of brown howler monkeys in Misiones. |
| Complete health studies of all brown howler monkey populations in Misiones to evaluate parameters such as physiological stress, innate and acquired immunity, hematology, etc., to be able to evaluate and compare different populations especially before and after yellow fever outbreaks. |
| Isolate yellow fever virus from adult and larvae of mosquitoes. |
| Conduct a thorough literature and archive review to enhance our understanding of the interactions (environmental and anthropogenic) involved in the maintenance and dynamics of yellow fever outbreaks in South America. |
| Capture adult mosquitoes where monkeys sleep or capture adult mosquitoes through monkey baited capture stations. |
| Refine the current and potential distribution of brown howler monkeys in Argentina. |
| Attempt to isolate or detect the Yellow Fever virus in suspected vertebrate hosts using virological assays, cell cultures and molecular techniques. |
| Conduct a systematic review about the virulence of the yellow fever virus from different strains in different vertebrate hosts in Misiones and Brazil. |
| Understand what defines the carrying capacity of brown howler monkeys and their habitat requirements (limiting factors, food, threats) |
| Identify suspected vertebrate hosts, and places of Yellow Fever virus circulation in Misiones through screening of antibodies against Yellow Fever or other Flaviviridae. |
| Conduct a study of the metapopulation genetic diversity (i.e., population structure, connectivity, bottle necks, etc.). |

**Full workshop report available at: http://www.cbsg.org/content/brown-howler-monkey-pva-2013**

***Workshop organizers:*** *Asociación Civil Centro de Investigaciones del Bosque Atlántico (CeIBA), Argentina*
*Instituto de Biología Subtropical – sede Iguazú, CONICET - UNAM, Karadya Bio-Reserve*

***Workshop sponsors:*** *IUCN/SSC Species Conservation Planning Sub-committee (SCPSC);*
*Conservation International –Margot Marsh Biodiversity Foundation – Primate Action Fund; Banham Zoo of England*