

Status of the jaguar (*Panthera onca*) in Guatemala

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1. Distribution of population, suitable habitat and degree of its protection

The first attempt to define jaguar distribution in Guatemala was conducted in year 1998 (McNab & Polisar 2002). Through a rapid evaluation and a participatory method two areas were defined that retained a high probability of maintaining viable jaguar populations over the long-term; (a) Maya Biosphere Reserve -MBR- and (b) the complex of protected areas including Sierra de las Minas, Sierra de Santa Cruz and Izabal Lake surrounding area (see fig 1).

In that analysis, McNab and Polisar proposed investigation of localities where jaguars were rumored to exist, or land cover analyses suggested that jaguar populations might well be present. Subsequently, Estrada & Juárez (2003) confirmed the presence of jaguar in the Río Sarstún area, and Hermes (2000) confirmed the presence of jaguar in Laguna Lachuá. Currently, research is being promoted to evaluate the possibility of jaguar presence in Visis Caba (Amarilis Gómez, pers. comm.).

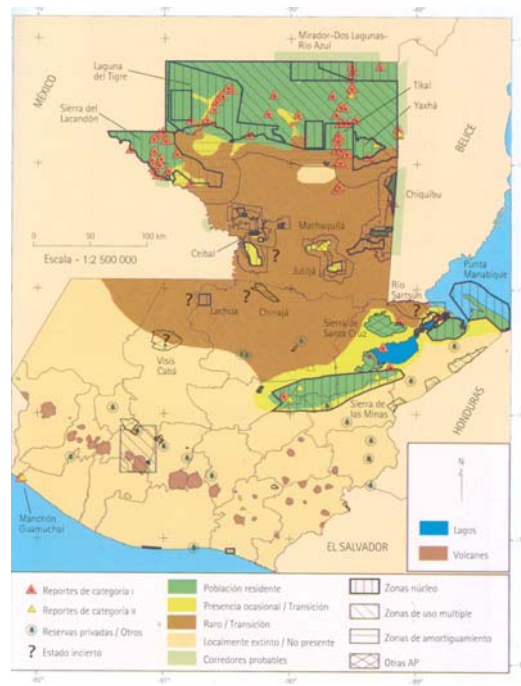


Figure 1. Estimated distribution of jaguars in Guatemala. Taken from McNab & Polisar (2002) A participatory method for a rapid estimation of jaguar distribution in Guatemala.

In the year 2000, a comprehensive review of the state of the jaguar across its entire range entitled “Jaguars of the New Milenium” (Sanderson et al., 2000), and later Marieb (2006), three jaguar conservation units (JCU; areas considered to have a good probability of containing populations of >50 jaguars 100 years into the future) were identified within Guatemala (Fig. 2). This conclusion differed from the original estimate of jaguar distributions from 1998 in that the Maya Biosphere Reserve block originally identified by McNab and Polisar had become two blocks due to habitat loss between Sierra del Lacandon National Park and Laguna del Tigre National Park.

In addition to the three JCU’s identified, five other sites in Guatemala were highlighted as containing important jaguar habitat, and contributing to JCU’s in Mexico (1) or Belize (4) (*indicated in the map below with a star*).

Lastly, Sanderson et al. (1999) and Marieb (2006) also proposed key jaguar corridors to assure the genetic flow between the Guatemala JCUs and the JCUs from México, Belice and Honduras.

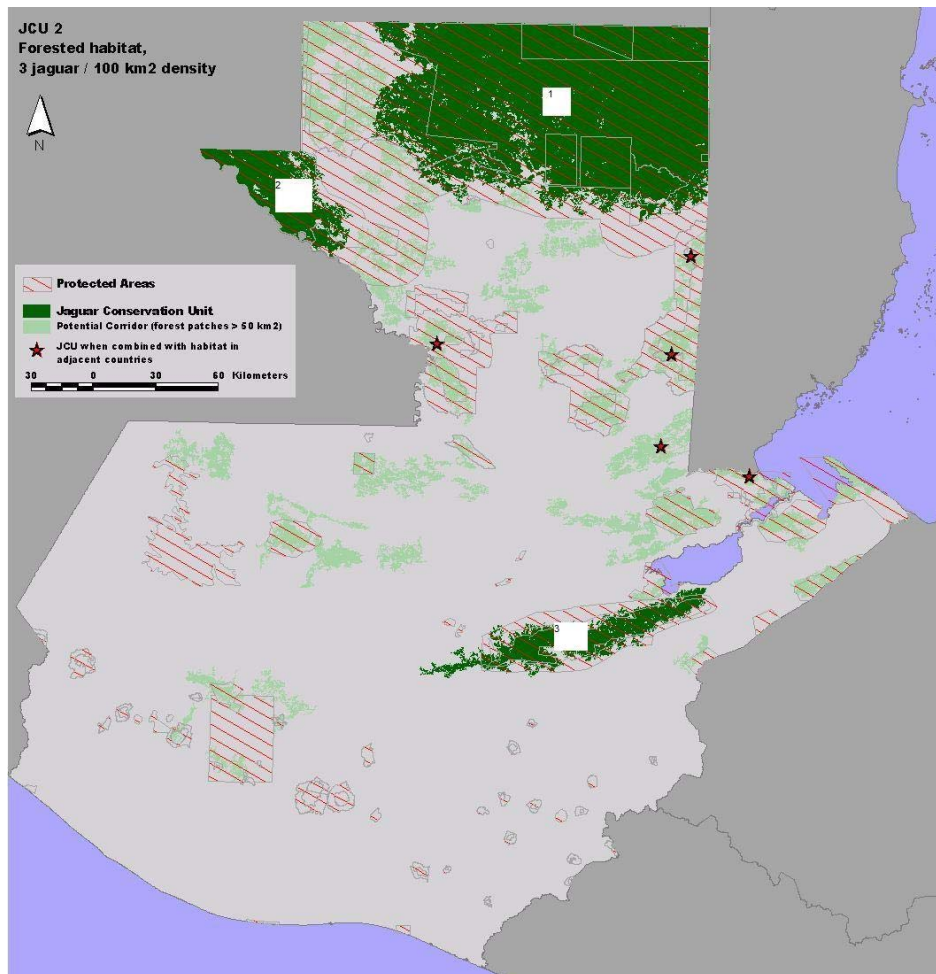


Figure 2. Guatemalan Jaguar Conservation Units (WCS-Guatemala).

All three Guatemalan JCU's identified are located in protected areas declared by CONAP. However, it must be noted that no research has been conducted on the jaguar populations of the Sierra de las Minas JCU. At this point then, the proposition that a population of >50 jaguars exists in that area is somewhat speculative. In contrast, numerous jaguar studies have been undertaken in the Maya Biosphere Reserve, especially in the eastern JCU within the reserve. Due to their undeniable importance to jaguars, the MBR JCU's were ranked as the most important priorities for long-term jaguar conservation (*i.e. Highest Priority JCU*), as depicted on the map below). In contrast, the area of Sierra de las Minas was considered as "Higher Priority" JCU (Fig. 3)

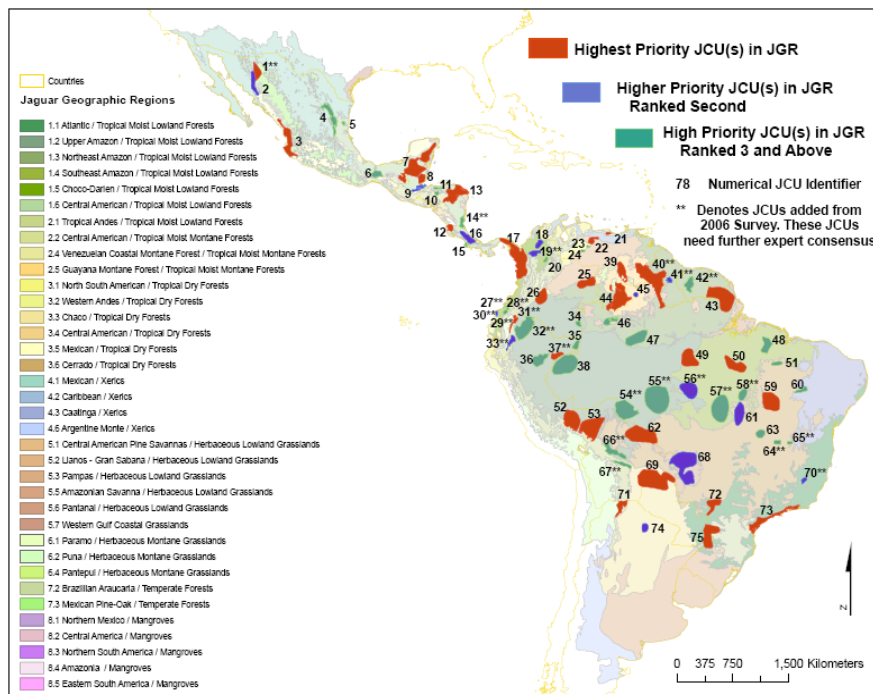


Figure 3. Updated Jaguar Conservation Units Under Prioritization Scheme (from Marieb 2003)

Protection:

The most intact JCU's within Guatemala is the eastern Maya Biosphere Reserve JCU, with both the Sierra de las Minas complex JCU, and the Sierra del Lacandon JCU increasingly subject to habitat conversion and fragmentation. However, despite the clear laws governing these protected areas, all JCU's in the country continue to lose jaguar habitat, both within community-managed areas and in national parks. Of particular concern is Laguna del Tigre National Park, the largest protected area in the country. Over 75% of the park has been colonized by ranchers and agriculturalists, making conservation goals in the area unviable.

2. Viability of known breeding populations

In Guatemala, the Wildlife Conservation Society has estimated that the eastern Maya Biosphere Reserve easily contains the minimum number of 50 jaguars required to ensure population viability over the short-term. It is suspected that at least 50 jaguars exist in the Sierra del Lacandon JCU. Estrada and Juarez (2003) used indirect methods and local interviews to estimate that a viable (i.e. >50) population of jaguars exist in the areas of Sarstún and Cerro San Gil, although this was highly speculative and should be regarded with caution. Lastly, Novack (2002), evaluated the viability of jaguars in the Laguna Lachua area of Alta Verapaz, concluding that the small population of jaguars there was unlikely to be viable over the long-term.

3. Conservation measures that have been implemented to benefit the species

The National Council for Protected Areas (CONAP) was created in 1989 by the Law of Protected Areas (Dec. 4-89). Since its creation more than 213 protected areas have been declared, including Maya Biosphere Reserve -MBR- (consisting of 19% of the surface area of the country, in the Department of Petén, largely in lowland habitat located within the north of the country) and Sierra de Las Minas (central-northeast of the country). These two areas are crucial for the protection of jaguar habitat. In the year 2000, and later in 2006, a list of the endangered species of Guatemala was published (*Lista de Especies Amenazadas*) included Jaguar in Index 2, indicating that its capture and manipulation could occur only for scientific purposes. Guatemala signed (1973) and ratified (1979) the CITES Convention, where the Jaguar is included in Appendix I.

In the period between 2004 and 2007, Fundación Defensores de la Naturaleza (FDN), Universidad de San Carlos de Guatemala (USAC) as well as Wildlife Conservation Society (WCS) and ARCAS, have conducted research on jaguar populations, focusing on abundance, habitat use, conflicts between jaguars and domestic animals, prey base and jaguar prey use, as well as potential corridors of the species. In year 2007 CONAP and this NGO's developed a meeting with livestock farmers to discuss research topics related to "problems" with jaguars.

Presently, protection via ground patrols led by CONAP, the natural resource police (DIPRONA), and the Guatemalan Army occur within the MBR and occasionally in other protected areas. These efforts are however inadequate, and often ineffective due to their inconsistent nature. Despite this, however, the protection of both Yaxha National Park (CONAP), and Tikal National Park (IDAEH) can be counted as successes thus far. Asociación Balam, WCS, and FDN have also spearheaded protection actions with the previously mentioned governmental partners, leading to more effective protection activities.

Since 2005, the Wildlife Conservation Society's Guatemala Program has been implementing a education

guide focused on the jaguar entitled “*Jaguares para Siempre*” (Jaguars Forever, and educator’s tool kit for saving the Americas’ greatest cat) in schools in the Petén and Izabal.

4. The status and trends of threats to the species.

The jaguar in Guatemala is listed in the Index 2 of Guatemala’s National Threatened Species List (Resol. SC/15-2006), which it means that manipulation of the species may occur only for scientific purposes. The main threats to the species are: illegal hunting of jaguar prey, forest fires, and most importantly habitat destruction and transformation resulting from uncontrolled agrarian expansion and cattle farming in protected areas and community forests theoretically managed for timber and non-timber forest products.

In conclusion, Guatemala has designated 33% of its national territory as protected area of one type or another, providing an excellent contribution to the future conservation of jaguars in the Mesoamerican isthmus. The vast majority of this area however, is located within the Maya and the Sierra del las Minas Biosphere Reserves, making these blocks the most important areas for jaguar conservation in the country. Both areas however are suffering habitat loss, and jaguar populations that originally rebounded with the passage and ratification of CITES are increasingly threatened by the threats previously listed.

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