

Short-tail Jaguar: a unique cat reinforces the need for transboundary collaboration across the Maya Forest

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Abstract: During a workshop organized by the German Technical Cooperation (GIZ, Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) through their project, Support for Monitoring of Biodiversity and Climate Change in the Maya Forest in May 2018, researchers working in Belize and Guatemala realized that the same jaguar *Panthera onca* had been photocaptured in both countries; an adult male jaguar in apparently good body condition despite having lost its tail. Although a camera trapping survey had been performed in the region in 2004 (Miller C. 2005), and annual surveys began in 2008 (Kelly and Rowe 2014), it is the first transboundary jaguar reported between these countries; highlighting the importance and potential for collaborative work between Belize and Guatemala, across the Maya Forest region.

The 40,297 km², Type I Jaguar Conservation Unit (JCU) #8 (Selva Maya), is one of the most important strongholds for the jaguar population in Mesoamerica. It is formed by adjoining protected area systems in Guatemala, Mexico, and Belize (Zeller 2007) and includes strict protection zones such as national parks of the Maya Biosphere Reserve and Calakmul, and community based and industrial-owned, timber management units. This large transboundary JCU is critical for wide-ranging jaguars (Tobler et al. 2018) that need extensive, well connected habitats for their continued survival (de la Torre et al. 2017, Garcia-Anleu et al. 2015).

Camera-trap surveys in Guatemala and Belize revealed the presence of at least one transboundary jaguar on the eastern side of this tri-national JCU. A male jaguar, soon to become known as the Short-tail Jaguar (J114 in Belize, Male10-Holmul in Guatemala) was recorded in Hill Bank, Rio Bravo Conservation and Management Area (Belize) for the first time on June 24th, 2009 by Marcella Kelly and her field team (Table 1). At that time, the cat had a complete and normal tail (Figure 1). The last time the jaguar was observed with an intact tail was Aug. 27, 2010. When he was next observed on May 05, 2011, most of the tail was missing, indicating the tail was lost sometime between those dates for unknown reasons (Figure 1). Since then, Short-tailed Jaguar was recorded in that area (i.e. Hill Bank and La Milpa sites) and in the adjacent Gallon Jug and Yalbac areas (large, protected private properties). In Guatemala, Short-tail was recorded in camera trap surveys deployed in the community forest concessions of La Union and Rio Chanchic in 2013 by Rony García-Anleu and his field team (Reported in Tobler et al. 2018). It appears that he then returned to Belize in 2014,

where he was recorded 35 times across multiple sites, with his last photograph being on August 04 2014 at Gallon Jug. Thus, at a minimum he crossed the border twice, but this could be an underestimate since camera traps did not run continuously during those times, and surveys in Guatemala only ran from April 18th to July 16th, 2013. Nonetheless, the maximum distance recorded between photo-captures between the 2 countries was 60.7 km (Figure 2).

Transboundary jaguars have been reported in other areas of the jaguar distribution such as between Brazil and Argentina (Paviolo et al. 2006) and between Bolivia and Paraguay. Romero-Muñoz et al. (2007) argued the need for efforts to maintain transboundary connectivity for wide-ranging species like jaguars. De la Torre et al. (2017) reported in 2012-2013 that two jaguars fitted with satellite global positioning system collars repeatedly crossed the Usumacinta River – the natural border of the binational JCU #07 (Montes Azules/Sierra del Lacandon) shared by Guatemala and Mexico, another stronghold for the jaguar population in the Mesoamerican region.

Recognizing that many of the most important JCUs straddle international boundaries, the 2030 Jaguar Conservation Initiative (UNDP 2018) places a priority on maintaining large blocks of transboundary jaguar habitat like the Maya Forest. The presence of Short-tail Jaguar in Guatemala and Belize testifies to that priority and, by using areas under carefully managed community and industrial timber extraction in both countries, confirms the importance of both protected and managed forests for maintaining jaguar habitat in the Maya Forest. These pooled records also highlight the importance and potential of collaborative work between Belize and Guatemala. The private properties at the heart of Short-tail's range are not under permanent conservation status and thus face the risk of sale to new owners and potential conversion to agriculture. Therefore, actions are needed to secure these properties in order to maintain habitat continuity and ensure the maintenance of a well-connected, transboundary management area that guarantees a secure future for jaguars in this exemplary area.

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Tables

Table 1. Short-tail Jaguar records in Belize and Guatemala.

Site	Records per year					
	2009	2010	2011	2012	2013	2014
Rio Bravo C&MA						
La Milpa	-	0	0	4	1	0
Hill Bank	10	4	3	1	12	4
Gallon Jug/Laguna Seca	-	-	-	-	15	27
Yalbac Ranch	-	-	-	-	-	4
La Union CFC	0	-	-	-	1	-
Rio Chanchic CFC	0	-	-	-	2	-

C&MA = Conservation and Management Area, CFC = Community Forest Concession

Not sampled = “-”

Captions to figures

Fig. 1. Short-tail Jaguar photocapture events in (a) Belize 2009, (b) Guatemala 2013, and (c) Belize 2014.

Fig. 2. Short-tail Jaguar records in JCU #8 Maya Forest