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White-lipped Peccary in Mesoamerica: Status, Threats and Conservation Actions

Short Report of:
1st Symposium on White-lipped Peccary in Mesoamerica
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Rafael Reyna-Hurtado¹, Jeremy Radachowsky², Lee Mcloughlin², Daniel Thornton³, José F. Moreira-Ramírez¹, Rony García-Anleu², Gabriela Ponce-Santizo², Roan McNab², Fabricio Diaz-Santos², Fausto Elvir⁴, Hector Orlando



Portillo-Reyes⁴, Ricardo Moreno⁵, Ninon Meyer^{1,6}, Adolfo Artavia^{6,7}, Ronit Amit⁷, Maarten P.G. Hofman⁸, Bart J. Harmsen⁹, Franklin Castañeda¹⁰, Khiavett Sanchez-Pinzon¹, Edwin Hernández-Pérez¹, Wilber Martínez¹, Melvin Mérida², Nery Solís², Víctor Hugo Ramos^{2,11}, Diego Juárez¹², Cecar Tot¹³, Edín López¹³, Raquel Leonardo¹³, Oscar Machuca¹⁴, Patricia Calderón¹⁵, Christian Estrada¹⁵, Julio Morales¹⁷, Sol Guerrero¹⁸, Francisco Morazan¹⁸, Eduardo Carrillo¹⁹, Juan Carlos Cruz^{19,20}, Victor Montalvo¹⁹, Jose F. González-Maya^{21,22}, Diego Gómez^{21,22}, Juan José Jiménez²³, Stephany Arroyo²⁴, Ian Thomson²⁴, and John Polisar².

Author's affiliations:

¹El Colegio de la Frontera Sur, Campeche, México

²Wildlife Conservation Society, Bronx, New York, USA

³Washington State University, Washington State, USA

⁴Fundación de Ciencias para el Estudio y Conservación de la Biodiversidad. Tegucigalpa, Honduras

⁵Fundación Yaguara Panamá, Sociedad Panameña de Biología, Panamá & Instituto Smithsonian de Investigaciones Tropicales, Panamá.

⁶Fundación Yaguara Panamá, Panamá

⁷Programa Gente y Fauna, Asociación Confraternidad Guanacasteca, Costa Rica

⁸Dept. of Wildlife Sciences, Georg-August-Universität Göttingen, Germany

⁹Environmental Research Institute, University of Belize, Belmopan, Belize, Central America

¹⁰Fundación Panthera, Honduras

¹¹Centro de Monitoreo y Evaluación del CONAP, Guatemala

¹²University of Florida, Gainesville, Florida, USA

¹³Fundación Defensores de la Naturaleza, Guatemala

¹⁴Asociación Guatemalteca de Mastozoólogos, ASOQUAMA, Guatemala

¹⁵Iniciativa del Corredor del Jaguar en Guatemala, Fundación Panthera

¹⁶Consultor independiente, Guatemala

¹⁷Universidad de San Carlos de Guatemala

¹⁸ICOMVIS, UNA, Costa Rica

¹⁹Programa Jaguar, ICOMVIS, UNA, Costa Rica





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²⁰Conservación Osa, Costa Rica

²¹ProCAT Internacional, Costa Rica

²²Sierra to Sea Institute, Costa Rica

²³Reserva Forestal Golfo Dulce, Costa Rica

²⁴Coastal Jaguar Conservation, Costa Rica

White-lipped peccary (*Tayassu pecari*) is one of the three extant species of peccaries. Peccaries are pig-like animals from the Tayassuidae family, a family of ungulates from the Neotropics. White-lipped peccary distribution range extends from northern Argentina to southern Mexico with the largest continuous population within the Amazon forest, and smaller and isolated populations scattered from Panama to Mexico (Altrichter et al. 2012).

Group size can vary from less than 10 to over 300 individuals (Sowls 1997, Moreira-Ramirez et al. 2015, Reyna-Hurtado et al. 2016). Historically there were reports of hundreds of white-lipped peccaries roaming together through the Neotropical understory, however, habitat destruction and hunting have dramatically affected their group size. In addition, white-lipped peccaries are a highly prized prey for subsistence and market hunters. Currently the species is listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and classified as Vulnerable on the IUCN Red List (Keuroghlian et al. 2013). The white-lipped peccary is presently considered endangered, or critically endangered, for some areas of Brazil and for all of Mexico, Belize, Costa Rica and Panama by the environmental institutions of these countries (Brazil: Keuroghlian et al. 2012, Mexico: Secretaría de Medio Ambiente y Recursos Naturales-SEMARNAT, NOM-059, 2010, Costa Rica: Regulations to the Wildlife Conservation Law n°32633; Panama: Ministerio de Ambiente, 2016).

According to an analysis by Altrichter et al. (2012) using data from 2005, the range of white-lipped peccary had been reduced by 20.5 % from its historic distribution over the previous 100 years (<http://maps.iucnredlist.org/map.html?id=41778>) including extirpations from entire countries (i.e. El Salvador and Uruguay). In another 48% of its current range, white-lipped peccary remains but with reduced abundance and a low to medium probability of long-term survival. There have been major range declines in Argentina, Paraguay, southern Brazil, Colombia, Venezuela, northeast Brazil, Guatemala, Mexico, Costa Rica, Honduras y Panama (Altrichter et al. 2012; Keuroghlian et al. 2013; Moreno & Meyer, 2014, Portillo & Elvir 2016; Meyer et al. 2016).

Long term monitoring projects in strategic sites in Mesoamerica (Maya forest in Guatemala and Mexico; Darien forest, Panama; Bosawas, Nicaragua) carried out by academic or conservationist organizations (Wildlife Conservation Society, El Colegio de la Frontera Sur; Fundación Yaguara Panamá) have suggested that the species situation across Mexico and Central America (Mesoamerica) is quite different than the situation in the Amazon forest. In that context, the current global status of Vulnerable on the IUCN Red List, which includes vast secure areas in South America, does not represent the status of the species in Mesoamerica, which is in contrast, highly jeopardized mainly because of the current rate of deforestation and forest fragmentation.

Seeing the need for a regionally-focused review, a group of more than 30 scientists, conservationists and professionals convened to discuss the status of the species from Panama to Mexico and compile the most accurate available information on current range, status of the





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populations, main threats, and conservation actions needed for white-lipped peccaries in each of the 7 countries of the Mesoamerican region where the species survive (Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica and Panama; the species is extinct in El Salvador). We assigned national coordinators to aggregate expert opinion from each of 7 represented countries through a formal questionnaire about estimates of population and group size, through a presentation and a mapping exercise, which was then coordinated at the symposium by a spatial analysis expert. This provided the first regional scientific assessment of white-lipped peccary range, status and trends.

More than 40 participants delivered responses to a questionnaire sent in advance of the meeting that took place on August 25th 2016 in Belize City, within the framework of the XX Congress of the Mesoamerican Society for Biology and Conservation. Objectives of the review event were described in an opening presentation led by Rafael Reyna and Jeremy Radachowsky followed by presentations for each country, summarizing the existing knowledge of the species. The symposium ended with a mapping exercise in which the current range of the species from Mexico to Panama was plotted on a single map. This exercise was led by Daniel Thornton from Washington State University, who used polygons and shapefiles as well as drawings to elaborate the maps according to best available knowledge of the species in each country, and across the whole region.

Respondents were able to identify at least 29 populations scattered across 7 countries of Mesoamerica. However, information on these 29 populations revealed rapid negative trends. Of the 29 populations, 20 were classified as showing a decreasing trend (69%), 4 were classified as unknown (14%), 4 as stable (14%) and only 1 population was categorized as apparently increasing (3%). The majority of populations were estimated as lower than 1000 animals and in most of the cases current group sizes were estimated at fewer than 50 animals, which compared to remote sites and historic records, are small for this species (Altrichter et al. 2012; Bustamante et al. 2013; Reyna-Hurtado et al. 2016).

Large, stable populations exist only in the tri-national Maya forest (Calakmul in Mexico, Maya Biosphere Reserve in Guatemala and Rio Bravo in Belize) and the Darien National Park in Panama. Smaller but stable or increasing populations were identified only in the Maya Mountains (Belize) and Corcovado National Park (Costa Rica). All other populations are experiencing a rapid decrease. Most experts consider hunting pressure and habitat loss as the main threats to all populations, with only one population that seems affected by water unavailability (Calakmul forest, Mexico). The relevance of diseases as threat is unknown, and lack of connectivity is affecting the smaller populations.

White-lipped peccary status and future scenarios are not optimistic in Mesoamerica. Seventy percent of the remnant isolated populations were classified with a decreasing trend with only few of them (17%) located in large protected areas, showing a stable or increasing trend. The major threats identified across all countries were unregulated and illegal hunting pressure and habitat loss. Although it is difficult to define which one is paramount, there is evidence that severe hunting pressure may eliminate whole populations from major areas of otherwise healthy forest (large communal forest of southern Mexico, ejidos; Reyna-Hurtado pers. obs.).





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Hunting in combination with habitat loss is the worst scenario for the conservation of large and healthy populations of white-lipped peccaries in Mesoamerica. This current and growing reality is calling for the need of implementing conservation actions such as in-country hunting regulations. The status of white-lipped peccaries in Mesoamerica is more critical than its current range-wide IUCN Red List status of “vulnerable”. The current strongholds are remnants and the precipitous declines in range and group size justify a regionally accurate classification in the IUCN Red List to help provide a mechanism to ensure better protection of the species.

In summary, in Mesoamerica white-lipped peccaries range has been reduced from 87% of its historical distribution to a few populations that may be stable, whilst the remaining 70% are decreasing. Therefore, we consider that the IUCN Red List status of the species as a whole (Vulnerable, Keuroghlian et al. 2013) does not accurately represent the situation of the Mesoamerican populations. We recommend that the status of white-lipped peccaries be raised to Endangered in the Mesoamerican region (from Mexico to Panama) given its likely status as the rarest and most jeopardized large terrestrial mammal in the region.

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Appendix

Participants in the Symposium:

Wildlife Conservation Society: Jeremy Radachowsky.

Washington State University: Daniel Thornton.

Mexico: Rafael Reyna-Hurtado, Khiavett Sanchez Pinzón, Edwin Hernández Pérez.

Belize: Maarten Hofman, Omar Figueroa, Bart Harmsen, Lee Mcloughlin, Wilber Martínez, Reynold Cal, Stevan Renau, Boris Arevalo, Elma Kay, Yahaira Urbina, Rebecca Wooldridge, Celso Poot, Yamira Novelo.

Guatemala: José F. Moreira-Ramírez, Roan McNab, Rony García-Anleu, Gabriela Ponce-Santizo.

Honduras: Fausto Elvir, Hector Orlando Portillo Reyes.

Nicaragua: Fabricio Diaz-Santos, John Polisar.

Costa Rica: Adolfo Artavia, Ronit Amit, Lizeth Corella-Esquivel.

Panama: Ricardo Moreno, Ninon Meyer, Adolfo Artavia



White-lipped peccaries. Photo: R. Reyna-Hurtado