

## Project Update: February 2021

### Summary

The present report on monitoring and research activities in southern Lacandon forest included the inspection of sites located within and in communities adjacent to the Montes Azules Biosphere Reserve (MABR). The data on presence-absence of the Baird's tapir and the white-lipped peccary (WLP) obtained so far constitute an important source of information for different ecological analyses, such as occupation and habitat use, among others necessary for this research project. In addition, during this semester I concentrated a considerable effort of 45 days of sampling and field work for the installation of camera traps and tours in the study area. I also collected information on the conditions and characteristics of the area at the landscape level, such as vegetation type and land use (i.e., pastures, crops) and habitat (i.e., plant species present at 10, 50 and 100 m radii; which are what I can monitor at the "site" level [a radius of ~50m with respect to each camera trap, or the transects I walk]). These visits were to the community forest areas and other jungle relicts belonging to several rural ejidos that are located adjacent to the MABR. I will use this information for the next 3 months to generate the first occupancy modeling, given that I already have enough data (a 90-day sampling season). During these past months, in the approach to social factors, we were able to identify some of the threats to the wild populations under study, which basically lie in habitat deterioration and fragmentation, perceived by the community itself (according to the interviews) as the gradual decrease of native vegetation cover, hunting, forest fires and possible zoonoses transmitted by domestic animals.



I have not been able to classify satellite images; I will have to take a course for that. I will oversee this task for the next 3 months. Regarding the interest in capturing and tagging individuals for tracking using radio collars, it has been canceled due to the high costs of the satellite radio service (GPS) as well as the risk that handling wild animals would represent, under this sanitary contingency due to COVID-19. Nevertheless, I have managed to generate information on the threats and habitat conditions for the Baird's tapir and the WLP in the study area. Currently, I have conducted an environmental education workshop (Figure 4), 20 interviews, achieved 22 independent photographic records of Baird's tapir as a result of the use of camera traps, and observed an encounter rate of 70 records of individuals or their tracks along 55.2 km traveled in linear transects implemented in the study area within the Lacandon forest, Chiapas, Mexico.

The Lacandon forest is considered one of the most important reservoirs of large relicts of evergreen tropical forest in Mexico, which together with the forests of the states of Campeche and Quintana Roo in the southeast of the country and those of the Petén in northern Guatemala and Belize, make up one of the largest jungle ecosystems on the planet, particularly in tropical America (Cuarón 1991, 1997, Rodstrom et al. 1999; Tejeda 2009). In this context, this study is expected to identify populations, if not numerous, at least occurring in some community forest areas outside the Protected Area (MABR).

In April and June 2021, a couple more workshops and possibly an environmental fair will be held to generate awareness and environmental education actions in the communities settled in the study area, on aspects related to the conservation of the populations of the species under study; in addition to the upcoming participation of MsC. Saúl Abraham Amador-Alcalá, we will give a presentation on regulations related to the protection of fauna and other topics related to the control and mitigation of poaching. We have also begun to generate a diagnosis of the social perception regarding the conservation of the species under study and their habitat.

The results so far obtained about the abundance and distribution of the monitored species indicate that the two species are still present in very conserved portions of the study area. However, it is very likely that they are in decline, since judging from the abundance values obtained for the Baird's tapir and WLP populations, they are relatively lower in this study, compared to what was obtained in previous years in MABR. However, aspects such as the photographic records obtained in WLP community areas through photo-trapping, feed the need to continue and expand research on the distribution and conservation status of these mammals in other areas of the northern sector of MABR. It is hoped that this information and actions generated will be useful for making decisions regarding the conservation of these species and their habitat.



Fig. 1. Sites where there have been records of occurrence of the ungulates under study located in the forest surroundings of Reforma Agraria and Adolfo López Mateos, Marqués de Comillas, Chiapas, Mexico.



Fig 2. Within the limits of Benemérito de Las Américas, the landscape is highly fragmented (due to its remarkable appearance), with very few forest remnants and little continuity between them. There are many small forest fragments and very few that exceed 2 hectares of tropical forest (high or medium rainforest). Palm plantations and agricultural crops dominate, as well as the grazing of many areas adjacent to MABR.



Fig. 3. Baird's tapir roost, on the microsite (punctually), Baird's tapir tracks and resting traces were found. The site presents a typical condition of sandy-clay soils; 5 m from a water body (canal). It is considered a site with high habitat suitability for Baird's tapir.



Fig. 4. This site presents tapir-associated traces (excreta and footprints), within REBIMA, with adequate characteristics to set up a tapesco to wait for Baird's tapir or WLP and to be able to count and identify them directly.



Fig. 4. First workshop in the “Ejido El Pirú”, Marqués de Comillas, Municipality, in the Lacandon forest.







