Evaluation of a traslocation of *Crocodylus moreletii* individuals to Área de Protección de Flora y Fauna Yum Balam, Quintana Roo, Mexico

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Abstract: Currently there are several translocations in Mexico without any control, that is, with a lack of knowledge of the biology and ecology of the species, their movements, spatial distribution and the local population, this without considering that most do not meet procedures to move and release animals in wilderness, thereby harming wild populations and their habitats. The translocation is a tool for the management and conservation of wildlife, however, in order to be effective, the local population must be known prior to the relocation of foreign individuals. A total of 22 individuals of *C. moreletii* rescued from a construction of a theme park in the Riviera Maya tourist corridor in the Mexican Caribbean was transferred to Yalikin River at Área de Protección de Flora y Fauna Yum Balam protected area, with the aim to evaluate the survival and dispersion of the translocated specimens, as well as to know their possible impact on the local crocodile population, where two species are present (*C. moreletii*, *C. acutus* and possible hybrids). Our results revealed that the spatial distribution of all crocodiles is aggregated with possible segregations as they move away from the water body entrance. Estimated total abundance was 49 crocodiles with an encounter rate of 6.50 ind/km. The population structure by size classes consists of young (1.14%), juveniles (9.66%), sub-adults (11.36%), adults (13.64%), large adult (5.68%). An important fraction of sightings (58.52%) weas assigned to the "Eyes Only" category. The sex ratio for both species was 1:1. Population studies prior to a translocation show whether it is appropriate to perform a management in any specific category or sex. In addition to the spatial distribution, the dynamics of the local population and the possible impacts of the introduced specimens provides us with information relevant to the best decision-making by natural resource managers regarding sustainable management and conservation.

Keywords: Impact assessment in local populations, Management and conservation strategies, Population dynamics, Translocation

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