Revitalizing conservation and management of the American crocodile (Crocodylus acutus) in Dominican Republic

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Abstract: Crocodilian populations declined globally during most of the 20th century because of overhunting and habitat loss. Some crocodilian populations have recovered over the past 50 years through legal protections and habitat restoration, but the statuses of many crocodilian populations are still unknown because of a lack of recent data. The American crocodile (Crocodylus acutus) population in the Dominican Republic (DR) is one of these data-deficient populations, with country-wide surveys not carried out since the 1980s. To fill this knowledge gap we surveyed areas within DR where C. acutus is likely to still reside from May to July 2021. Our surveys yielded no crocodile sightings in Monte Cristi, suggesting that crocodiles have been extirpated or nearextirpated from this area. Our surveys of Lago Enriquillo, the largest lake in the Caribbean, produced 120 crocodile sightings over 72.6 km of shoreline, for an encounter rate of 1.2 crocodiles/km. Encounter rates were very high in the main nursery area of the lake (La Azufrada; 60.0 crocodiles/km) and low to moderate elsewhere. The C. acutus population was composed of 18 (15%) hatchlings, 45 (37.5%) juveniles, 12 (10%) subadults, and 32 (26.7%) adults, while we were unable to estimate size for 13 (10.8%) individuals. During 2021 nest surveys, we only located 42 nests in Lago Enriquillo. Our data suggest that the DR population of C. acutus is critically endangered and is continuing to decline due to the pressures of hunting, fishing, and habitat destruction (both anthropogenic and natural lake level fluctuations). Implementing a long-term conservation management plan is critical to the survival and recovery of this population.

Keywords: American crocodile, Population survey, Conservation, Management

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