## New River pollution crisis: the impact of contamination on *Crocodylus* moreletii in northern Belize

## Jonathan Triminio\*1 and Marisa Tellez<sup>2</sup>

<sup>1</sup>Crocodile Research Coalition, Maya Beach, Stann Creek, Belize (jonathan.triminio@crcbelize.org) <sup>2</sup>Crocodile Research Coalition, Maya Beach, Stann Creek, Belize (marisa.tellez@crcbelize.org)

Abstract: In early 2017, the Crocodile Research Coalition (CRC) began hearing reports of dead fish and ill, white or pink crocodiles along New River around Orange Walk Town in northern Belize. During nocturnal eyeshine surveys and capture surveys in early 2018 in conjunction with the countrywide Morelet's crocodile population survey, CRC witnessed crocodiles near Orange Walk Town illustrating "white patches" and a bluish tint on their skin. Besides lethargy, some crocodiles were also exhibiting "star-gazing," or short-term paralysis. To date, CRC has conducted necropsies on 2 Morelet's crocodiles (Crocodylus moreletii) of 2.2 m and 2.9 m in total length, captured in the most heavily contaminated area of the New River. Necropsies were conducted immediately to obtain the most accurate samples for future pollutant analysis, however, collection of samples proved difficult given organs already appeared in a state of disintegration (especially the kidneys and liver) in both crocodiles. Through our monitoring efforts, we have collected caudal scute samples, in addition to water and soil to examine heavy metal and pesticide concentration to identify key pollutant(s) causing the pollution crisis and consequently impacting the crocodiles. From recent data obtained, we have witnessed a marginal increase in encounter rates within the contaminated area of the New River in addition to increasing mortality rates. We intend to conduct monthly surveys of New River, utilizing the population and health status of C. moreletii as an indicator of the state of the river ecosystem as requested by The Belize Government. The CRC hopes that this research can provide stakeholders of the New River the data necessary to ensure the long-term survival and health of this important ecosystem not just for the wildlife, but also for the multiple communities that depend on this river for their livelihoods.

Keywords: Eco-toxicity, Conservation management, Crocodylus moreletii, Belize

*Type of presentation*: Poster

Thematic area: Research and Knowledge (Miscellaneous)