

*Original Article*

## Density and management of estuarine crocodile in Samarahan river basin, Sarawak, Malaysian Borneo\*

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### Abstract

Estuarine crocodile, *Crocodylus porosus* is the most common crocodile found in Sarawak, Malaysia. Despite its importance in ecological services, socio-economy and cultural belief, crocodiles are still considered pests due to frequent human crocodile conflicts (HCC) resulting in either injuries or death. This study determined the density of crocodiles in three selected rivers within Samarahan River Basin (SRB) of Sarawak, using a standard night spotting technique over a three-year period (2019-2021). The average density of crocodiles in SRB is showing an increasing trend, although there is active removal of the animals from the rivers either by commercial hunting or by relocation of certain individuals as immediate response to HCC. This paper also describes conservation initiatives carried out in SRB aiming to use crocodile as a resource in bioeconomy, which supports the United Nations Sustainable Development Goals.

**Keywords:** biodiversity, density, crocodile, resource utilization

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### 1. Introduction

Estuarine crocodile, *Crocodylus porosus*, is widely distributed in the Indo-Pacific region including Bangladesh, Northern Australia, Brunei, Philippines, Sri Lanka, Indonesia and Malaysia (Webb, Manolis, & Brien, 2010). This species can live in different types of aquatic habitats; it regularly moves between rivers around the coasts and could also be found in offshore islands (Webb *et al.*, 2010). Estuarine crocodile has a large triangular head, broad snout and round eyes located on top of the head (Grigg, & Gans, 1993). Its

body colour is typically green or pale tan and eventually fades becoming less colourful after some years, due to the presence of mud, algae and grime.

Crocodile is an apex predator; it plays a major role in maintaining nature's balance in the riverine ecosystem (Webb *et al.*, 2010). In terms of socio-economy, trade of crocodile leathers is a lucrative business. In addition, other body parts of the animal are also in high demand as they are used in Traditional Chinese Medicine practice (Hassan, Md Adzhar, Abdul-Gani, & Ahmad, 2018). Farming, ranching and crocodile-based tourism activities promote the growth of economy and human capital in the society (Webb *et al.*, 2010). Other than that, crocodiles play important roles in local people's beliefs and culture, as well as influence everyday life for example in local communities living along the rivers in coastal area of Sarawak Malaysia (Abdul-Gani, Hassan, Tisen, & Ahmad, 2022).

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