

ASSESSMENT OF WILD SALTWATER CROCODILE POPULATION IN BAKO RIVER, WESTERN SARAWAK, MALAYSIAN BORNEO FOR POTENTIAL ECOTOURISM INDUSTRY

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ABSTRACT

For decades, saltwater crocodiles are feared by the public, but the sentiment has gradually changed because local people livelihood has improved by ecotourism industry. Wild crocodile sighting is now being offered as one of ecotourism products in Sarawak but the activity is based solely on local knowledge. The objective of this study is to determine relative density and distribution of saltwater crocodiles along the Bako River, Sarawak during different monsoon seasons. Standard night spotting technique was deployed during northeast monsoon (NEM), southwest monsoon (SWM) and inter-monsoon (IM). Other works involved documenting riparian landscape along the river and measuring water pH, temperature and salinity. Approximately 117, 60, 92 wild crocodiles had been spotted during SWM, IM, and NEM, respectively. Relative density fluctuated with 3.65, 1.93 and 4.67 non-hatchling/km among seasons. Adults could be seen either resting on river banks or in the middle part of the river while juveniles appeared in small groups near mangrove patches. Data obtained will help relevant state agencies and ecotourism industry players to improve crocodile watching activity offered to tourists. This is important in order to ensure maximum enjoyable experience (without compromising safety) among tourists as well as benefiting local communities.

Key words: saltwater crocodiles, monsoon season, density, distribution, ecotourism

INTRODUCTION

Crocodile conservation programs had been successful in boosting the crocodile populations in Sarawak (Hassan & Gani, 2013; Zaini *et al.*, 2014). However, this success has brought a new challenge, namely sustainable management of the resource. One of the biggest challenges in crocodile conservation is inculcating good human-crocodile interaction as this animal has long been portrayed as man-eating beast that deserved to be killed. Sarawak Forestry Corporation (SFC) is responsible to carry out awareness campaigns on the importance to co-exist with the reptiles in the vast river networks of the state, emphasizing the economic benefit brought by the reptiles which may change socio-economy of local people living along the

river banks. The campaigns also highlight risk assessment for this unique human-crocodile co-existence in Sarawak.

Several studies related to assessment on wild population density of crocodiles in Sarawak had been carried out, and among the properly documented findings are by Cox and Gombek (1985), Tisen and Ahmad (2010), Gani *et al.* (2011), Gani and Hassan (2013), Gani (2014) and Zaini *et al.* (2014), besides other internal reports belonging to the state government (only made available upon special request). In addition, molecular studies on crocodiles in Sarawak had also shed lights on population structure of the crocodiles, for example DNA profiling of *Crocodylus porosus* has been explored using PCR-RAPD (Sulaiman, 2011), DNA sequencing (Abdullah, 2013) and PCR-SSRs (or microsatellite) (Kasim, 2011; Gani, 2014). Moreover, Gani (2014) suggests a close genetic relationship

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