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THE CURRENT STATUS OF THE TERN COLONY ON PULAU TUKONG ARA**Mari Smaby-Stone**

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ABSTRACT

Bridled tern (*Sterna anaethetus*) and Black-naped tern (*S. sumatrana*) populations were monitored on Pulau Tukong Ara Wildlife Sanctuary from April to August, 1989. Nest sites were marked and rechecked regularly for chicks. The tern populations have increased substantially since 1986. Bridled terns had a hatch success of 33% and Black-naped terns had a hatch success of 40%. Renesting occurred after the disappearance of eggs between 29 April and 11 May. No obvious signs of human disturbance were noted during the study period.

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INTRODUCTION

The Bridled tern (*Sterna anaethetus*) and the Black-naped tern (*S. sumatrana*) are the only species of tern which nest in Sarawak. Both species, which are protected under the Wildlife Protection Act of 1957, nest on Pulau Tukong Ara. Pulau Tukong Ara was constituted as a Wildlife Sanctuary in 1983. Tern populations on the island have been monitored sporadically since 1958. The populations have fluctuated greatly, but a general decline has been suspected. Lewis, in 1986, concluded that the tern population was at an all time low. At that time, the major threat to the terns was human disturbance directly by egg collecting or indirectly by fishing near the island during nesting season. A conservation education program was launched by Lewis in 1987, but unfortunately, further monitoring was discontinued.

OBJECTIVES

The objectives of this study were to determine: 1) the current population status of the tern, 2) the productivity (hatch success, and number of chicks produced), 3) current threats (human disturbance and egg collecting), and 4) needs for future management and research.

STUDY AREA

Pulau Tukong Ara Wildlife Sanctuary is a rocky outcropping of approximately 1 ha. located 5 km offshore in Santubong Bay. Vegetation is sparse overall, although patches of dense grasses and ferns occur on the rocks above the high water line. A few small (<4m) trees and bushes are also present. A complete description of the island and its vegetation can be found in MacKenzie and Salter, (1986).

METHODS

Pulau Tukong Ara was surveyed for tern nests from 13 April to 30 July 1989. Visits were made 1-2 times weekly except when prevented by rain or boat problems. Surveys were completed between 7:40 and 10:00 am and lasted less than 2 hours. The first two visits consisted of 2-5 people searching for and marking nest sites. A nest site was designated as where we found an egg. All nest sites were labeled with a number in yellow paint on a nearby rock. On 29 April we began rechecking nest sites for signs of hatching. As many nests as could be found in the 2 hour time period were checked. Any changes in status, i.e. additional eggs, missing eggs, chicks, rotten eggs, or signs of predation, were recorded. New nests were marked when found and rechecking lasted until all nests were hatched or the eggs were determined unviable.

RESULTS AND DISCUSSION

The tern population is currently almost twice the size found by Lewis in 1986. However, the inconsistency in sampling dates makes it difficult to provide a complete picture of the terns' current status. The values for productivity, hatching success, and survivability appear adequate for continued population increases. The results are discussed below in further detail.

SURVEY SUMMARY

Eggs were found on our first visit (13 April); however, nests were not marked at that time. On 21 April we marked 71 Bridled tern nests and 8 Black-naped tern nests. On 26 April, an additional 94 Bridled tern nests and 7 Black-naped tern nests were marked. We began rechecking nest sites for signs of hatching on 29 April. Unmarked nest sites were recorded as to their location but not issued a number until 6 June. The results of each visit are shown on Table 1. Table 2 shows the observed nesting chronology.

Renesting occurred after 72 Bridled tern eggs and 11 Black-naped tern eggs were discovered missing on 11 May. By 18 May, replacement eggs were laid in 31 Bridled tern nests and 8 Black-naped tern nests. These renests may account for the peak number of chicks found on 9 June. I calculated an estimate of incubation at 22 days (+ or - 3 days). Fifty-one nests (23%) were deemed renests for the Bridled terns and 6 nests (30%) were deemed renests for Black-naped