

## **Health status and genetic compositions of green turtles (*Chelonia mydas*) foraging in Brunei Bay**

### **ABSTRACT**

Long-term monitoring of sea turtle aggregations is critical for understanding the impacts of environmental changes on their population health and habitat suitability. Brunei Bay is a significant foraging ground for green turtles in the South China Sea. We analyzed the body size, hematology and body condition of green turtles for their health status in their foraging ground in Brunei Bay over a period of nine years (2011–2019). Additionally, we used mitochondrial DNA (mtDNA) to evaluate changes in the size and genetic composition of green turtle aggregations. Our findings revealed that the size composition of the green turtle population varied seasonally, but there were no significant temporal changes in genetic and size compositions. Hematology parameters and Fulton's body condition index were consistent with those reported for apparently healthy green turtles. Furthermore, we found that blood reference intervals indicated the turtles were healthy. These results provide valuable baseline data for future comparisons with other foraging aggregations and for long-term monitoring of green turtles in Brunei Bay.