

## **Mass sea turtle slaughter at Pulau Tiga, Malaysia Genetic studies indicate poaching locations and its potential effects**

### **ABSTRACT**

It is important to identify the location of illegal poaching and its effects on the conservation of endangered species. This study applied molecular techniques to estimate the origin of sea turtle carcasses (N = 53) found at Pulau Tiga, Kudat, Malaysia (Borneo) in 2014. All carcasses were of adult (77%) and large juvenile (23%) green turtles (*Chelonia mydas*). A total of 10 haplotypes of mitochondrial DNA were identified. A Bayesian mixed-stock analysis showed that the natal origin was mainly from the Sulu and Celebes Seas (uninformative prior: median = 53.0%, 95% credible interval [CI] = 34.5–76.9%; informative prior: median = 61.3%, CI = 36.9–89.4%). The estimation of source foraging grounds of the carcasses as poaching sites indicated the Brunei Bay in the South China Sea as the most probable source (median = 90.2%, CI = 11.2–99.9%), although caution is needed since there is a possibility of poaching at unsampled foraging grounds. The results indicate that such poaching has negative effects especially for the nesting populations at the Sulu and Celebes Seas. This study provides information that contributes to the development of measures against poaching activities by regional collaboration regarding sea turtle traffic and law enforcement in Southeast Asia.