Current and past status of marine mammal strandings and mortalities in Sabah waters: 2010 to 2019

ABSTRACT

This study highlighted the current and past status of stranding and mortality of marine mammals in Sabah waters. Marine mammal stranding records were obtained through live stranding events, published documents, newspaper articles, social media platforms and information shared by authorities. A total of 45 marine mammals stranded in Sabah's waters during the study period with a total of 15 species identified from 91% (n = 41) of the dataset, while the rest remains unidentified. This includes 3 species that have never been recorded in Sabah before (K, breviceps, B, omurai, L. hosei). Besides that, temporally, more strandings were recorded in the Northeastern monsoon (NEM) (n=26) than in the Southwestern monsoon (SWM) (n=19) however, there was no significant difference obtained (P=0.0132). There is an average of 5 (SD ± 2.5) strandings per year with the highest number of strandings reported in the 2014 (n=8), this coincides with the El Niño-Southern Oscillation (ENSO). Spatially, stranding occur throughout Sabah's coast, however, the frequencies of occurrence were much higher on the west coast region than in other areas which are likely attributed to the local community awareness, presence of relevant authorities and public accessibility to coastal areas. 28 strandings were presumed dead upon rescuer's arrival or after rehabilitation, only 17 individuals assumed to live. The possible factors leading to the stranding and mortality of marine mammals are not clearly understood in most events, however, anthropogenic factors like plastic pollution, fisheries disruption and boat strike are likely to be major threats. In conclusion, the number of strandings in Sabah waters is still underestimated which underlines the need for extensive marine mammal research focusing on, but not limited to, strandings.