

Marine litter pollution on coral reefs of Darvel Bay (East Sabah, Malaysia)

ABSTRACT

Marine litter is recognized as an increasing component of marine ecosystem pollution. In this baseline study, we document the magnitude, types, sources, and potential impacts of litter on six coral reefs in East Sabah. We applied a simplified classification of litter to extract abundance data from video transects. The average density was 10.7 items per 100 m². Plastics represent 91% and the remaining 9% were metal, glass, and wood. Most (~70%) plastics are single-use items derived from dumping. Discarded fishing gear accounts for ~25%. Litter pollution increases closer to urban developments, with Sakar reef having higher densities (51 items per 100 m²), and higher Clean Coast Index (CCI =10.2, dirty) and higher Plastic Abundance Index (PAI =4.68) scores. This method could and should be readily integrated into ongoing monitoring programs to support assessments of the extent and magnitude of marine litter pollution on reefs worldwide.