



Stakeholder Consultation on Penang's Green Initiatives: Solving Plastic Pollution at Source

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Bangunan UAB Georgetown

Zulfigar Yasin¹, Aileen Tan Shau Hwai¹ and Wenxi Zhu²

¹ Universiti Sains Malaysia (USM)

² IOC Sub-Commission for the Western Pacific (WESTPAC)



Plastic debris nomenclature based on size

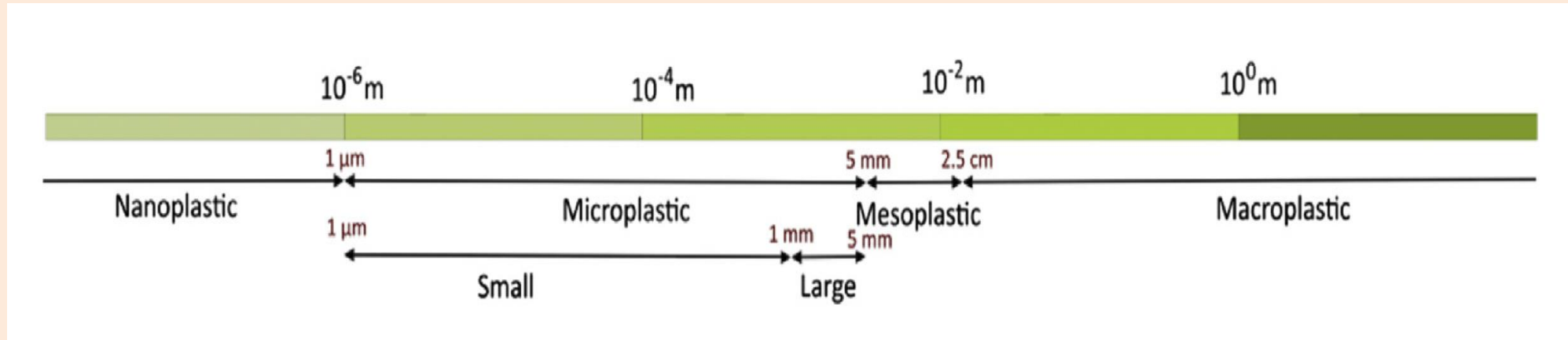


Fig. 2. Size matters. Suggestion of plastic debris nomenclature based on size, as proposed by the European MSFD technical subgroup on Marine Litter ([MSFD GES Technical Subgroup on Marine Litter, 2013](#)). The overall term “microplastic” is composed of small microplastics (SMPs, smaller than 1 mm) and large microplastics (LMPs, 1–5 mm), to differentiate between two commonly used definitions of microplastics.

(Source: Van Cauwenberghe, L., *et al.* "Microplastics in sediments: a review of techniques, occurrence and effects." *Marine Environmental Research* 111 (2015): 5-17)

Plastic debris nomenclature based on size

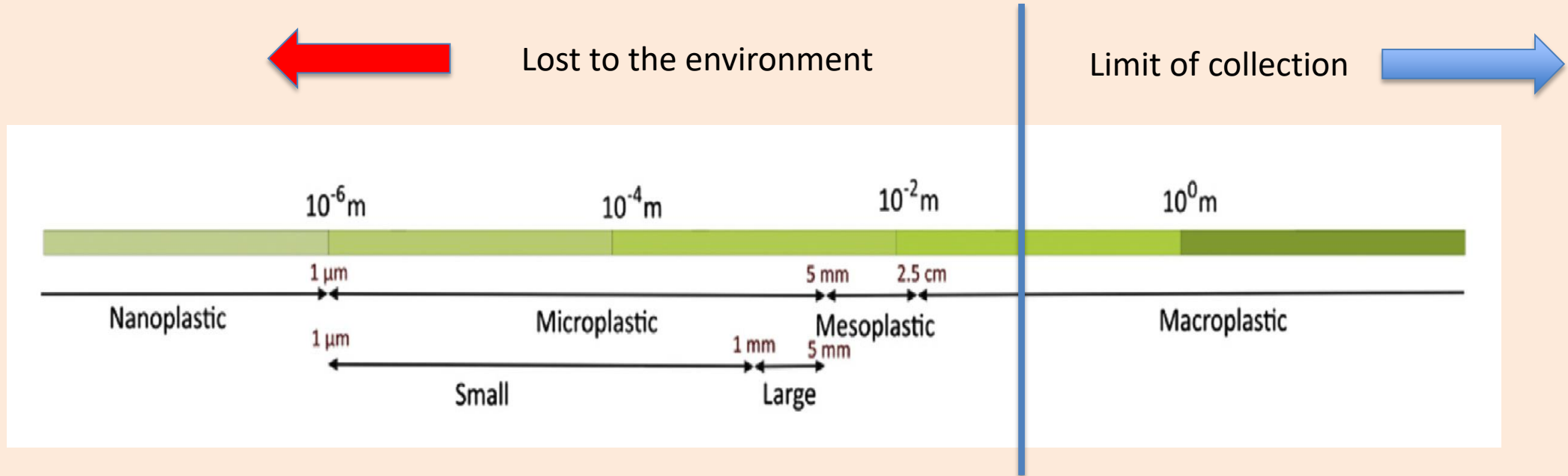
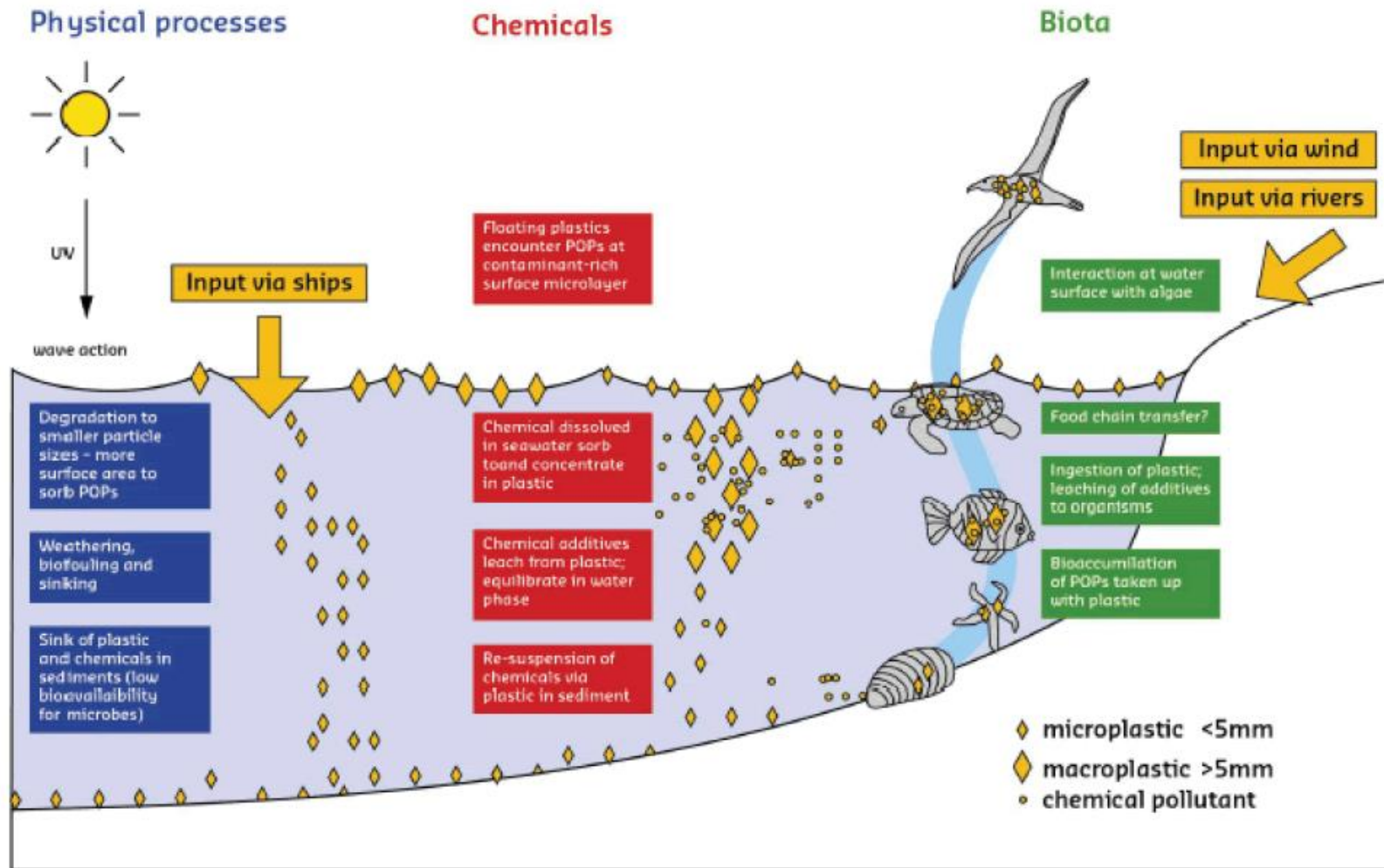


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Sources of marine microplastics & the various physical, chemical & biological processes affecting microplastics in the marine environment



(Source: Leslie H.A., *et al.* (2013) Microplastic survey of the Dutch environment. Novel data set of microplastics in North Sea sediments, treated wastewater effluents and marine biota. Amsterdam, The Netherlands: IVM Institute for Environmental Studies, Final report R-13/11)

LOCATION OF STUDY SITES



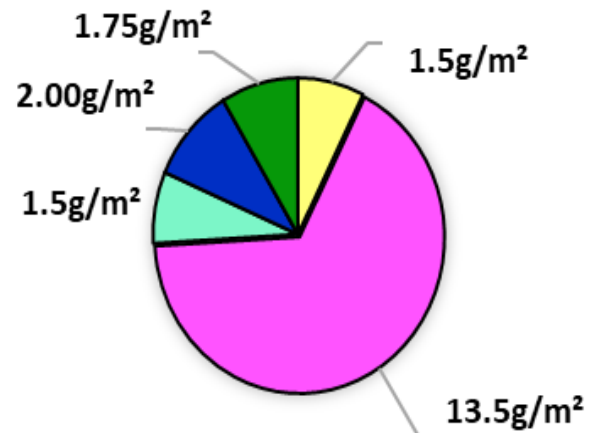
Plastics in Penang



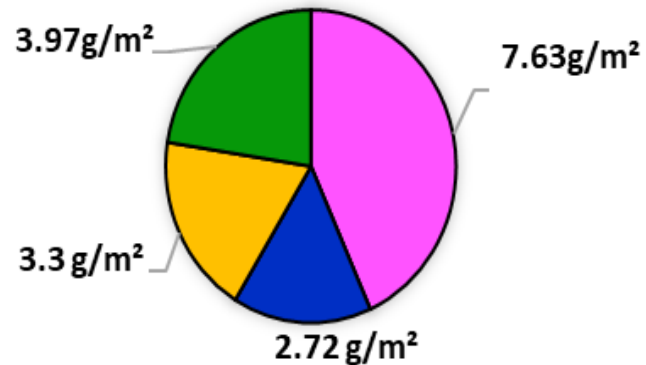
Macroplastic distribution on West Penang Beaches

Main contributors : **No. 1 is Packaging**

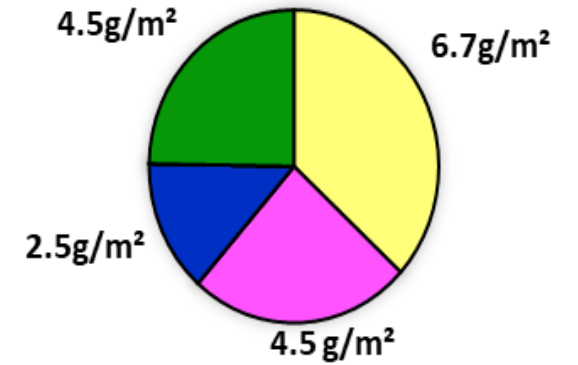
BALIK PULAU



PASIR PANJANG



TELUK ALING



Legend



Construction



Agriculture



Automotive



Other



Packaging



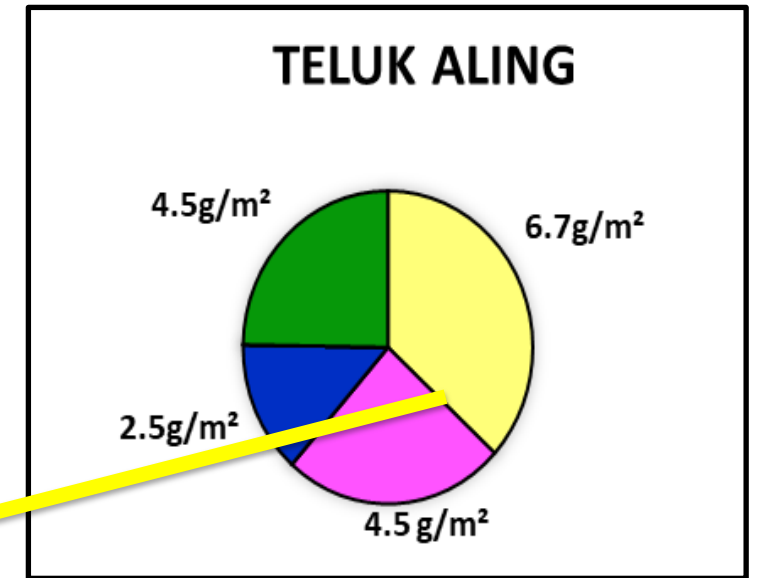
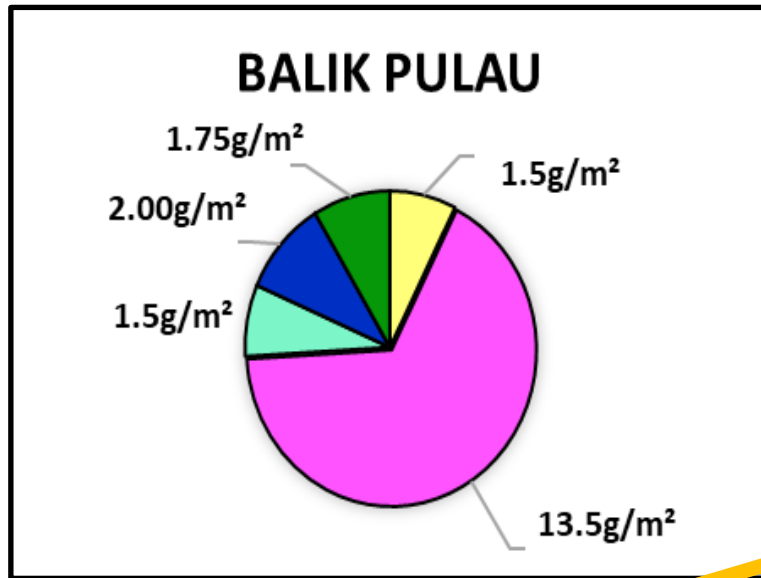
Household



Electrical and Electronic

Macroplastic distribution on West Penang Beaches

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Legend

Construction

Agriculture

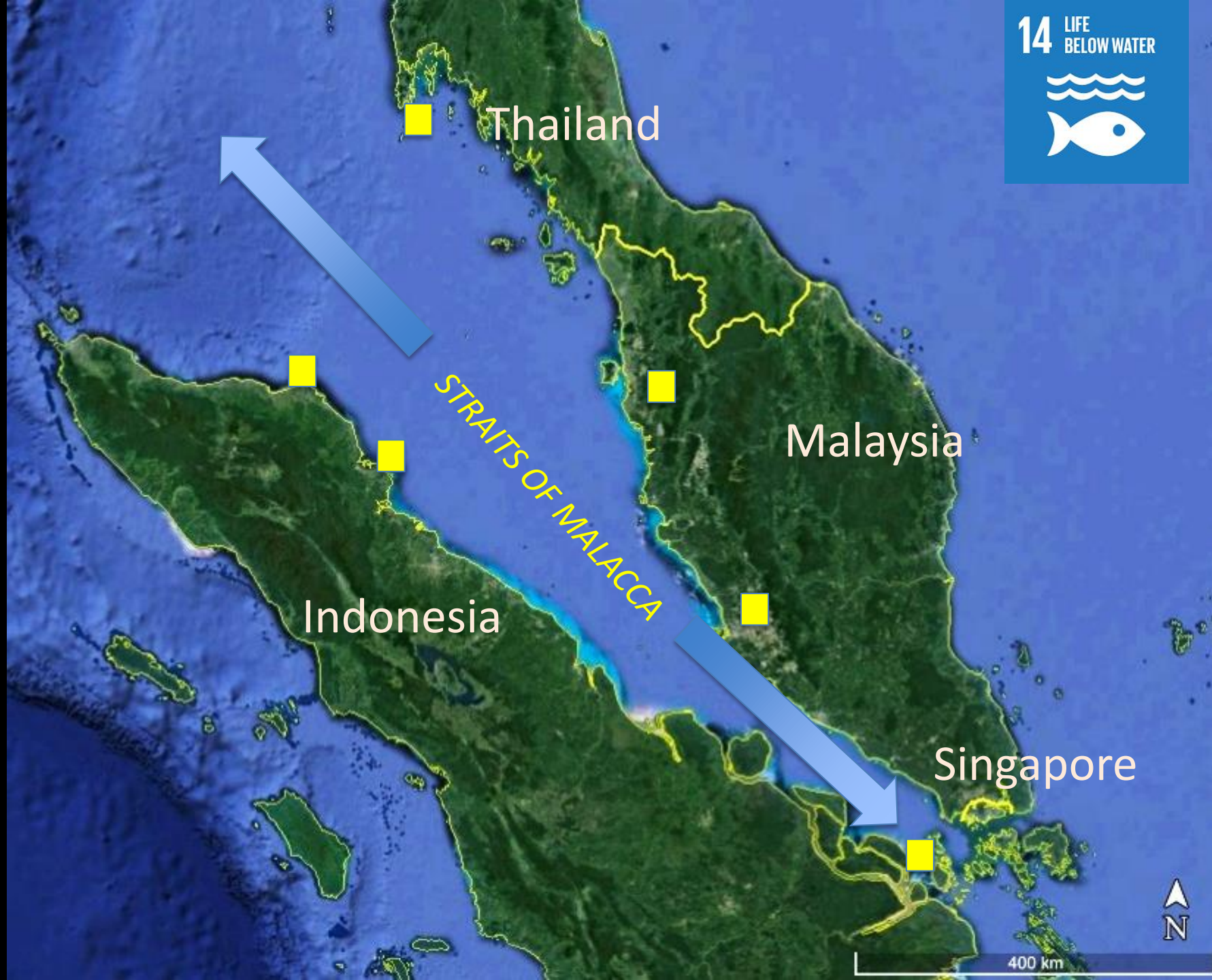
Automotive

Other

Packaging

Household

Electrical and Electronic



Regional collective efforts!



Research priorities for plastics

Considering the many gaps in our knowledge, research on the potential health risks of plastics is needed. The following is proposed:

1. Determination of the ecological impacts of plastic on many scales
2. Quantification, speciation and monitoring of the distribution of microplastics in the components of the riverine and marine ecosystems
3. Determination of the content of microplastics in local food stuff eg. fish and shellfish
4. Determination of the route taken by of plastics to the environment. Target packaging.
5. Implement site/waste specific solutions



