*Supplementary Data*

**Towards a North Pacific Long-Term Monitoring Program for Ocean Plastic Pollution: A systematic review and recommendations for shorelines**

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**Supplement 1.** Citations for the 81 published studies on shoreline debris sampling from countries bordering the North Pacific Ocean and adjacent seas selected for inclusion as part of the systematic review.

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**Table S1.** Number of sites according to the range of macroplastic abundance (metrics: items per linear meter, items per square meter).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Abundance (A) Range | Items per linear meter | Items per square meter |
| Total | 0 < A ≦ 0.1 | 4 | 15 |
|  | 0.1 < A ≦ 0.5 | 16 | 28 |
|  | 0.5 < A ≦ 1.0 | 17 | 19 |
|  | 1.0 < A ≦ 10.0 | 44 | 48 |
|  | 10.0 < A ≦ 100.0 | 9 | 22 |
|  | 100.0 < A ≦ 1000.0 |  | 3 |
|  | 1000 < |  | 1 |
| China | 0 < A ≦ 0.1 |  | 4 |
|  | 0.1 < A ≦ 0.5 | 1 | 10 |
|  | 0.5 < A ≦ 1.0 |  | 2 |
|  | 1.0 < A ≦ 10.0 |  | 7 |
|  | 10.0 < A ≦ 100.0 | 2 | 1 |
|  | 100.0 < A ≦ 1000.0 |  | 2 |
|  | 1000 < |  | 1 |
| Ecuador | 0 < A ≦ 0.1 |  | 11 |
|  | 0.1 < A ≦ 0.5 |  | 7 |
|  | 0.5 < A ≦ 1.0 |  | 5 |
|  | 1.0 < A ≦ 10.0 |  | 3 |
| Indonesia | 0 < A ≦ 0.1 | 2 |  |
|  | 0.1 < A ≦ 0.5 | 1 |  |
|  | 0.5 < A ≦ 1.0 | 3 |  |
|  | 1.0 < A ≦ 10.0 | 18 | 8 |
|  | 10.0 < A ≦ 100.0 | 7 | 1 |
| Japan | 1.0 < A ≦ 10.0 |  | 1 |
| Malaysia | 0.1 < A ≦ 0.5 |  | 2 |
| Philippines | 0.5 < A ≦ 1.0 |  | 1 |
| South Korea | 0.1 < A ≦ 0.5 | 1 | 8 |
|  | 0.5 < A ≦ 1.0 | 5 | 7 |
|  | 1.0 < A ≦ 10.0 | 14 | 9 |
| USA | 0 < A ≦ 0.1 | 2 |  |
|  | 0.1 < A ≦ 0.5 | 13 | 1 |
|  | 0.5 < A ≦ 1.0 | 9 | 4 |
|  | 1.0 < A ≦ 10.0 | 12 | 20 |
|  | 10.0 < A ≦ 100.0 |  | 20 |
|  | 100.0 < A ≦ 1000.0 |  | 1 |

**Table S2.** Number of sites according to the range of microplastic abundance (metrics: items per gram sediment, items per square meter).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Range | Items per gram | Items per square meter |
| Total | 0 < A ≦ 0.1 | 42 |  |
|  | 0.1 < A ≦ 0.5 | 74 |  |
|  | 0.5 < A ≦ 1.0 | 25 | 1 |
|  | 1.0 < A ≦ 10.0 | 42 | 16 |
|  | 10.0 < A ≦ 100.0 | 15 | 43 |
|  | 100.0 < A ≦ 1000.0 | 3 | 28 |
|  | 1000 < |  | 23 |
| China | 0 < A ≦ 0.1 | 24 |  |
|  | 0.1 < A ≦ 0.5 | 42 |  |
|  | 0.5 < A ≦ 1.0 | 14 |  |
|  | 1.0 < A ≦ 10.0 | 16 |  |
|  | 10.0 < A ≦ 100.0 | 1 | 5 |
|  | 100.0 < A ≦ 1000.0 | 2 | 3 |
|  | 1000 < |  | 11 |
| Malaysia | 100.0 < A ≦ 1000.0 |  | 6 |
| Mexico | 0 < A ≦ 0.1 | 8 |  |
|  | 0.1 < A ≦ 0.5 | 29 |  |
|  | 0.5 < A ≦ 1.0 | 9 |  |
|  | 1.0 < A ≦ 10.0 | 1 |  |
|  | 10.0 < A ≦ 100.0 |  | 2 |
|  | 0.1 < A ≦ 0.5 |  | 1 |
| Philippines | 0.1 < A ≦ 0.5 | 1 |  |
|  | 1.0 < A ≦ 10.0 |  | 3 |
| Singapore | 0 < A ≦ 0.1 | 10 |  |
| South Korea | 0.1 < A ≦ 0.5 | 1 |  |
|  | 0.5 < A ≦ 1.0 | 1 |  |
|  | 1.0 < A ≦ 10.0 |  | 4 |
|  | 10.0 < A ≦ 100.0 |  | 11 |
|  | 100.0 < A ≦ 1000.0 |  | 13 |
|  | 1000 < |  | 12 |
| Thailand | 0.1 < A ≦ 0.5 | 1 |  |
|  | 0.5 < A ≦ 1.0 | 1 |  |
|  | 1.0 < A ≦ 10.0 | 19 | 1 |
|  | 10.0 < A ≦ 100.0 | 12 | 1 |
|  | 100.0 < A ≦ 1000.0 | 1 |  |
| Vietnam | 1.0 < A ≦ 10.0 | 6 |  |
|  | 10.0 < A ≦ 100.0 | 2 |  |
| USA | 0.5 < A ≦ 1.0 |  | 1 |
|  | 1.0 < A ≦ 10.0 |  | 8 |
|  | 10.0 < A ≦ 100.0 |  | 24 |
|  | 100.0 < A ≦ 1000.0 |  | 5 |

**Fig. S1.** Estimated item counts (per square meter) for both microplastic (top) and macroplastic (bottom) for the four countries having sufficient data to be included in the generalized linear mixed model.

