

“Plastic Marine Pollution: The Case Study of Northwest Pacific coast”

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To understand the current status of the marine pollution by plastics, we decided to start investigation of our hometown. Hachinohe Port faces the Pacific Ocean and is the largest harbor in Aomori prefecture located in Hachinohe City, one of the major cities in the southern part of that prefecture (Fig. 1). In addition, Hachinohe Port not only has Hachinohe fishing port that is one of the biggest fishing port in Japan, but also second biggest industrial and international trade port in Tohoku district. The survey site, the Kabushima beach, is located in the eastern part of the Hachinohe Port area, and facing the opening of the breakwater where the waves of the Pacific Ocean strike. In this area, based on another survey of marine debris that was carried out at Ebisu Beach on 18th August in 2017, it considered that marine debris carried from neighboring rivers (Mabuchi River and Niidagawa river) was accumulated.

From Kabushima beach, we collected 711 specimens of micro plastic on 10th March in 2018. Recorded its color, shape and size, then plastic kinds were identified by the difference in specific gravity. We learned that method in the laboratory training course hold on 16th September in 2017, at the Deep Sea Scientific Drilling Vessel “CHIKYU” . Results were shown in Fig.2, and Table 1 and 2.

We discussed on the basis of records and summary results and got the following conclusion. Marine debris on Kabushima beach came into from Hachinohe city and its surrounding area of neighboring rivers. Then the plastic debris was broken into micro plastics while floating in Hachinohe bay, and it considered that flowed out to the open ocean at storm and a spring tide.

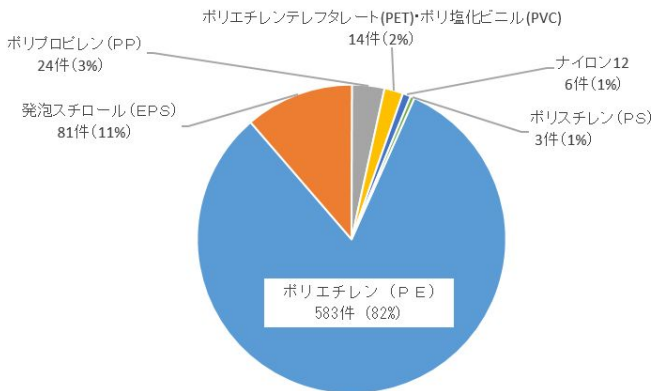
Acknowledgement

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Keywords: Northwest Pacific coast, Marine debris, Micro Plastics



図 1. 八戸市と蕪島海岸の位置（地理院地図・改変）



グラフ1.蕪島海岸のサンプル件数

表 1. 素材ごとの件数と最も多く見られた色

素 材	件 数	最も多く見られた色(件数)
PE	583	緑色(223)
EPS	81	白色(54)
PP	24	緑色(10)
PET・PVC	14	青色(4)
ナイロン12	6	黄色(3)
PS	3	黄色(2)
計	711	

表 2. 大きさごとの件数の分布

素材	PE	EPS	PP	PET・PVC	ナイロン12	PS	計
31mm以上	69	3	1	5	0	1	79
26～30	52	0	1	4	0	0	57
21～25	34	3	0	1	0	0	38
16～20	90	14	6	1	1	1	113
11～15	99	9	5	0	0	0	113
6～10	155	21	9	1	4	0	190
5mm以下	84	31	2	2	1	1	121
計	583	81	24	14	6	3	711