Spatial and Temporal Analysis of Meso- and Microplastic Pollution in the Ligurian and Tyrrhenian Seas

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Supporting Information

Table SI1: A summary of the abundance, mass, and sampling location for each collected sample.

Sample Number	Coordinates at start	Coordinates at end	Mesoplastic Abundance (Items/Km²)	Microplastic Abundance (Items/Km²)	Total Abundance (Items/Km²)	Sample Mass (G/KM²)
1	N41° 30.807 E9° 23.543	N41° 32.345 E9° 24.538	5,181	4,145	9,326	11.40
2	N41° 41.03 E9° 25.683	N41° 42.602 E9° 25.867	21,336	49,972	71,308	193.15
3	N41° 47.029 E9° 25.98	N41° 48.772 E9° 26.125	8,114	38,540	46,653	286.51
4	N42° 0.919 E9° 34.24	N42° 02.711 E9° 34.952	11,848	58,768	70,616	223.22
5	N42° 22.66 E9° 38.477	N42° 24.191 E9° 38.428	0	6,940	6,940	17.93
6	N42° 41.911	N42° 42.087	3,902	26,829	30,731	73.66

	E9° 31.037	E9° 33.487				
7	N42° 43.933	N42° 43.934	9,123	19,767	28,890	97.31
	E9° 48.993	E9° 51.364				
8	N42° 43.247	N42° 43.279	26,189	41,154	67,344	213.79
	E10° 8.546	E10° 10.793				
9	N42° 45.057	N42° 47.101	1,488	3,719	5,206	16.73
	E10° 26.478	E10° 28.138				
10	N42° 51.899	N42° 53.01	2,242	9,716	11,958	26.91
	E10° 27.489	E10° 26.93				
11	N42° 54.958	N42° 55.722	6,281	26,382	32,663	54.02
	E10° 12.005	E10° 10.392				
12	N43° 0.8	N43° 0.919	147,120	3,666,898	3,814,018	3,298.40
	E10° 0.378	E9° 58.646				
13	N43° 19.873	N43° 21.325	18,075	127,060	145,136	363.64
	E10° 9.522	E10° 10.64				
14	N43° 39.39	N43° 40.505	9,989	21,643	31,633	86.57
	E10° 10.55	E10° 8.978				
15	N43° 52.613	N43° 53.989	0	1,286	1,286	0.64
	E10° 2.3	E10° 2.23				
16	N43° 59.414	N43° 58.736	22,711	71,682	94,393	287.44
	E9° 46.464	E9° 45.013				
17	N44° 6.355	N44° 6.78	30,922	70,127	101,049	797.90
	E9° 42.985	E9° 40.839				

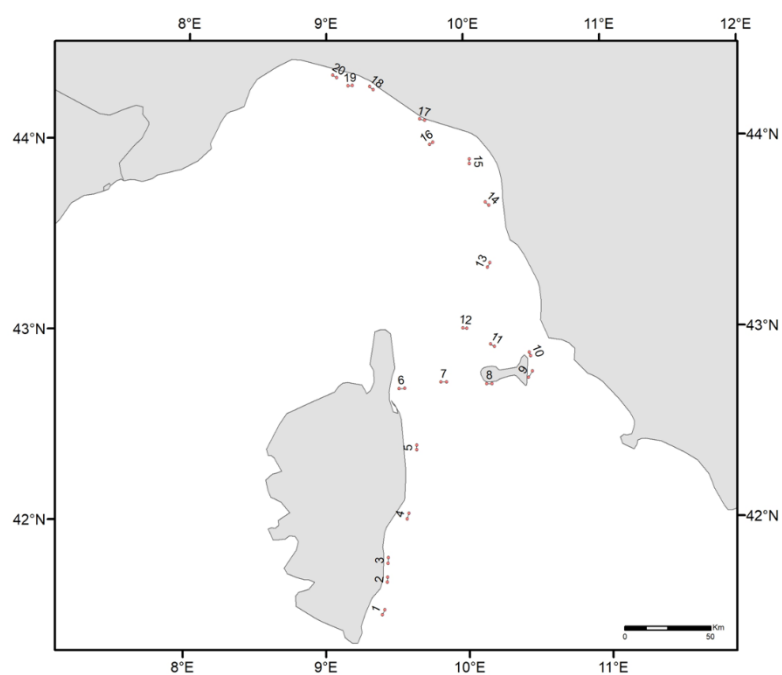| 18	N44° 16.073 E9° 20.603	N44° 17.049 E9° 18.935	8,596	81,948	90,544	158.17
19	N44° 17.382 E9° 11.408	N44° 17.324 E9° 9.453	86,326	272,842	359,168	1,431.63
20	N44° 19.953 E9° 4.568	N44° 20.643 E9° 2.837	19,314	79,128	98,442	244.86

Figure SI1: *A map of the sample locations with their numeric label. Labels were assigned based upon the order of collection (i.e. sample 1 was the first collected).*
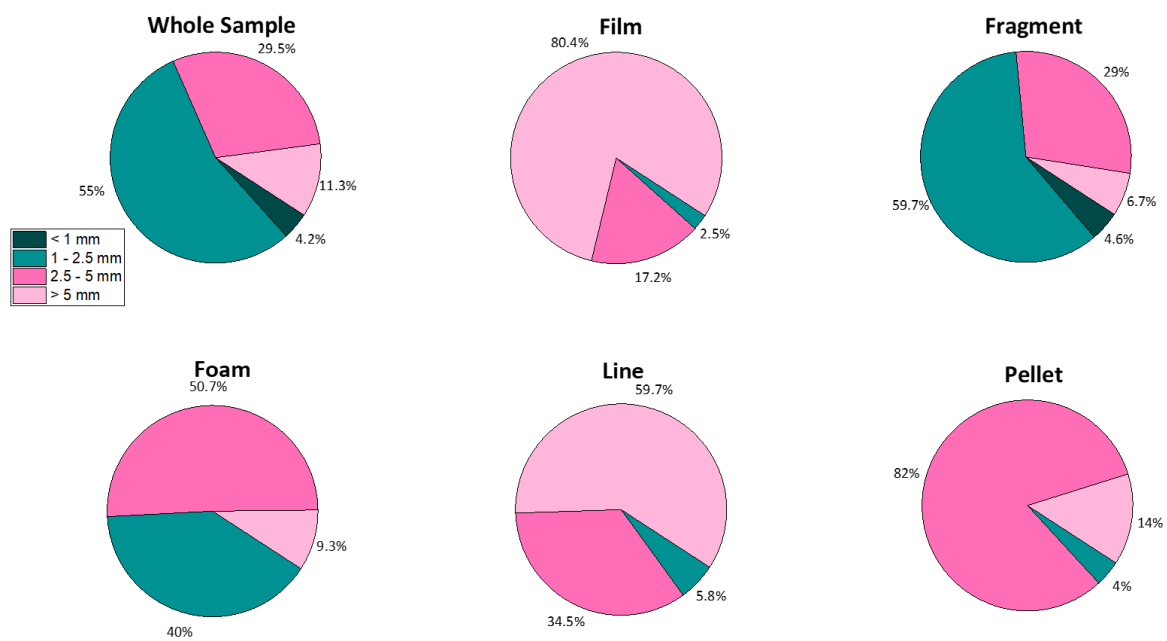
Whole Sample
- 29.5%
- 11.3%
- 4.2%
- 55%

Legend:
- < 1 mm
- 1 - 2.5 mm
- 2.5 - 5 mm
- > 5 mm

Film
- 80.4%
- 2.5%
- 17.2%

Fragment
- 29%
- 6.7%
- 4.6%
- 59.7%

Foam
- 50.7%
- 9.3%
- 40%

Line
- 59.7%
- 5.8%
- 34.5%

Pellet
- 82%
- 14%
- 4%

Figure SI2: Ratios for the particle sizes present within each shape category. The color legend used for all pie charts in the figure is displayed in lower left corner of the whole sample box.
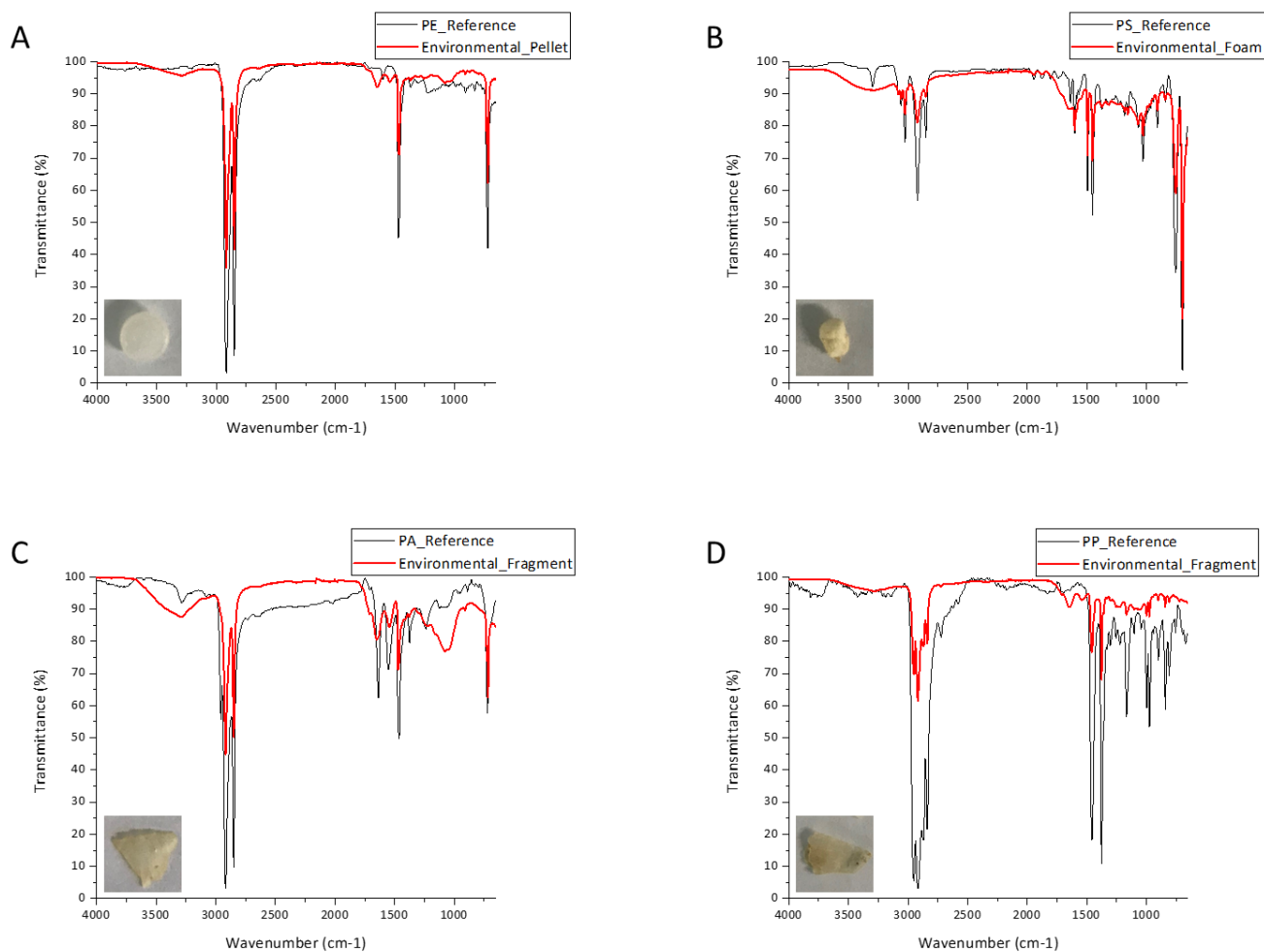
Figure SI3: *A comparison of a pristine polymer spectra (black) with spectra collected from representative particles from the sample (red). The polyethylene reference is compared to the spectra of a representative pellet (A). The polystyrene reference is compared to the spectra of a representative foam (B). The polyamide reference is compared to the spectra of representative fragment (C). The polypropylene reference spectrum is compared to an additional representative fragment (D). Representative particles are shown as insets in the lower left corner of their spectra.*