Supplementary Material

Table S1. Characteristics of the water collected in for quantification of microplastics.

	AVEIRO LAGOON	VOUGA RIVER
PH	7.92	7.06
DISSOLVED O_2 (%)	32.4	38.9
CONDUCTIVITY (MS)	43.41	288
TOTAL DISSOLVED SOLIDS (PPT)	21.70	145
SALINITY (PSU)	28.04	0.14
TEMPERATURE (ºC)	16.45	20.33
ATMOSPHERIC PRESSURE (PSI)	14.74	14.62

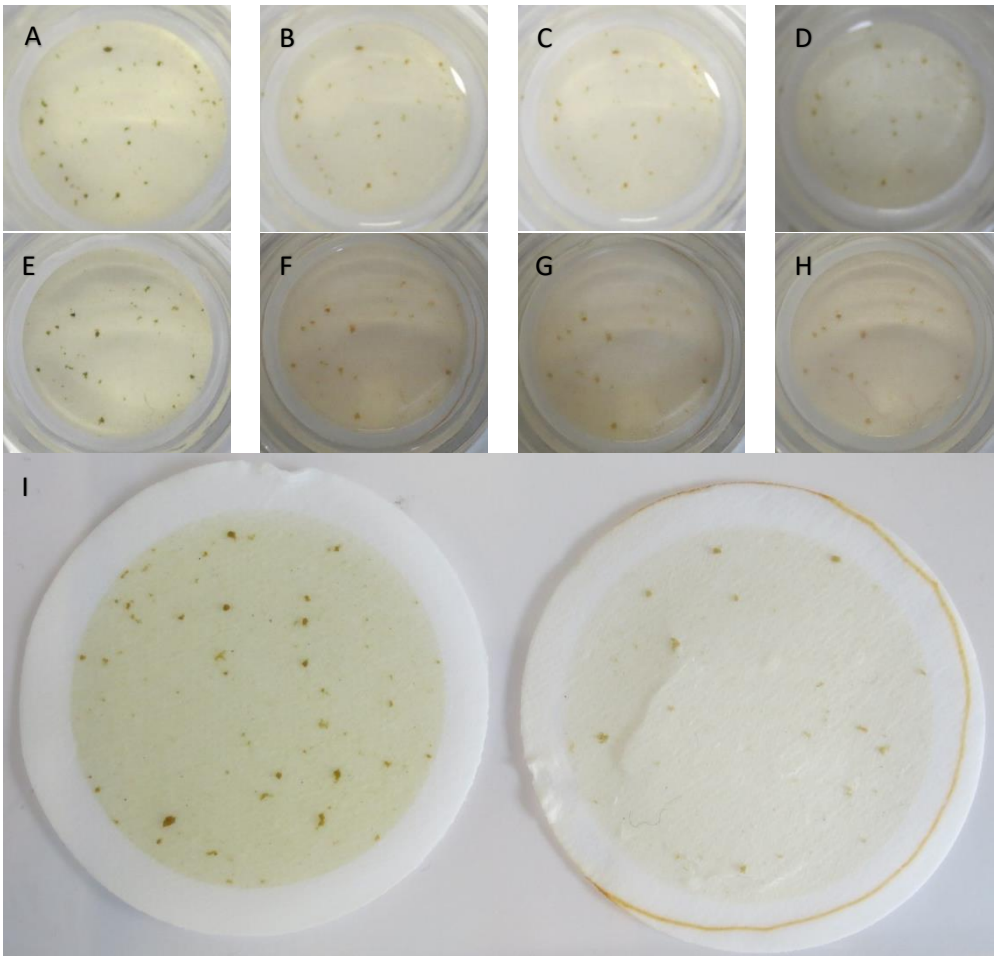

Figure S1. Testing the removal of natural organic matter from filters (50 mL from an artificial pond water) by adding 10 mL of H_2O_2, at 0 (A), 5 (B), 10 (C) and 15 (D) minutes, and H_2O_2+Fe, at 0 (E), 5 (F), 10 (G) and 15 (H) minutes, over the counter. Both filters exposed to H_2O_2 (left) and H_2O_2+Fe (right) over the counter for 15 minutes (I).

$$IQR = Quartile\ 3 - Quartile\ 1$$

$$Accuracy\ (\%) = 100\ \times \frac{(Median - Nominal)}{Nominal}$$

$$CV\ (\%) = 100\ \times \frac{Standard\ Deviation}{Average}$$

$$Recovery\ (\%) = 100\ \times Average(\frac{Value_1}{Nominal}, \frac{Value_2}{Nominal}, \frac{Value_3}{Nominal}, \frac{Value_4}{Nominal})$$

Figure S2. Formulas used in the calculation of the interquartile range (IQR), accuracy, coefficient of variation (CV), and recovery.

Table S2. Average, median, interquartile range (IQR), coefficient of variation (CV), accuracy and recovery of the concentration obtained from freshwater spikes in the concentrations of 2, 10 and 20 MP L^{-1} depending on the volume sampled.

	VOL (L)	2	10	20
Average	0.1	3	13	13
	0.25	2	10	19
	0.5	3	10	19
	1	2	10	20
	2.5	2	10	21
Median	0.1	0	15	10
	0.25	2	10	20
	0.5	3	9	20
	1	2	10	20
	2.5	2	10	21
IQR	0.1	8	18	28
	0.25	4	10	9
	0.5	4	7	7
	1	2	2	5
	2.5	0	1	1
CV (%)	0.1	200.0	76.6	120.0
	0.25	115.5	51.6	26.5
	0.5	76.6	36.0	20.2
	1	40.8	11.5	12.7
	2.5	0.0	5.1	2.8
Accuracy (%)	0.1	-100.0	50.0	-50.0
	0.25	0.0	0.0	0.0
	0.5	50.0	-10.0	0.0
	1	0.0	0.0	-2.5
	2.5	0.0	0.0	2.5
Recovery (%)	0.1	125	125	63
	0.25	100	100	95
	0.5	125	95	95
	1	100	100	99
	2.5	100	98	103

Table S3. Average, median, interquartile range (IQR), coefficient of variation (CV), accuracy and recovery of the concentration obtained from saltwater spikes in the concentrations of 2, 10 and 20 MP L^{-1} depending on the volume sampled.

	VOL (L)	2	10	20
Average	0.1	5	15	33
	0.25	4	8	21
	0.5	3	9	18
	1	2	10	20
	2.5	2	10	20
Median	0.1	5	15	35
	0.25	4	8	20
	0.5	3	10	18
	1	2	10	19
	2.5	2	10	20
IQR	0.1	10	25	18
	0.25	6	6	17
	0.5	4	6	9
	1	1	4	3
	2.5	1	1	2
CV (%)	0.1	115.5	86.1	29.5
	0.25	81.6	40.8	42.2
	0.5	76.6	38.5	27.2
	1	38.5	18.3	8.9
	2.5	22.2	4.9	4.1
Accuracy (%)	0.1	150.0	50.0	75.0
	0.25	100.0	-20.0	0.0
	0.5	50.0	0.0	-10.0
	1	-25.0	0.0	-5.0
	2.5	0.0	0.0	0.0
Recovery (%)	0.1	250	150	163
	0.25	200	80	105
	0.5	125	90	90
	1	75	100	98
	2.5	112.5	103	100

Table S4. Average, median and interquartile range (IQR) of the concentrations obtained for the environmental samples obtained for Aveiro lagoon and Vouga river, depending on the volume filtered and, on the observation conditions (470 nm, 254 nm all, 254 nm red).

		AVEIRO LAGOON			**VOUGA RIVER**		
	Vol (L)	470 nm	254 nm	254 red	470 nm	254 nm	254 red
Average	0.10	48	5	5	10	5	3
	0.25	43	11	2	6	2	0
	0.50	15	5	1	6	2	1
	1.00	18	4	1	1	1	0
	2.50	11	2	1	1	0	0
	5.00	12	1	0	-	-	-
Median	0.10	45	5	5	5	5	0
	0.25	48	12	2	6	2	0
	0.50	15	5	0	5	2	0
	1.00	18	4	1	1	1	0
	2.50	11	2	0	1	0	0
	5.00	13	1	0	-	-	-
IQR	0.10	33	10	10	25	10	8
	0.25	29	9	4	10	4	0
	0.50	25	9	2	8	2	2
	1.00	10	2	2	1	1	1
	2.50	2	4	1	1	0	0
	5.00	8	0	1	-	-	-

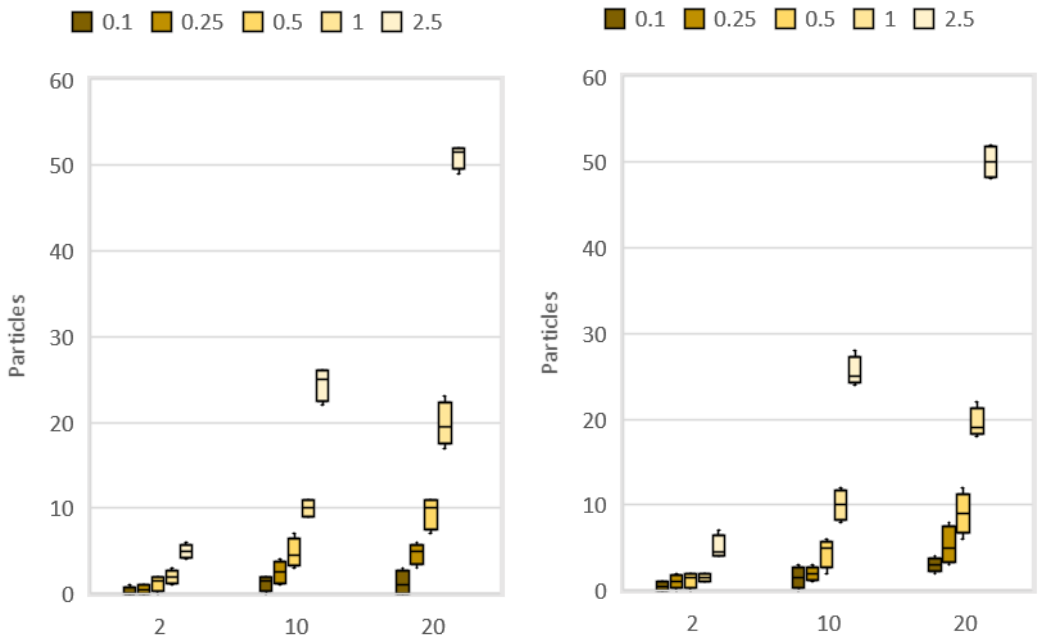

Figure S3. Number of particles obtained in laboratory spiked samples for freshwater (left) and saltwater (right), under three spiked concentrations (2, 10, 20 MP L^{-1}), depending on volume sampled (0.1, 0.25, 0.5, 1, 2.5 L).

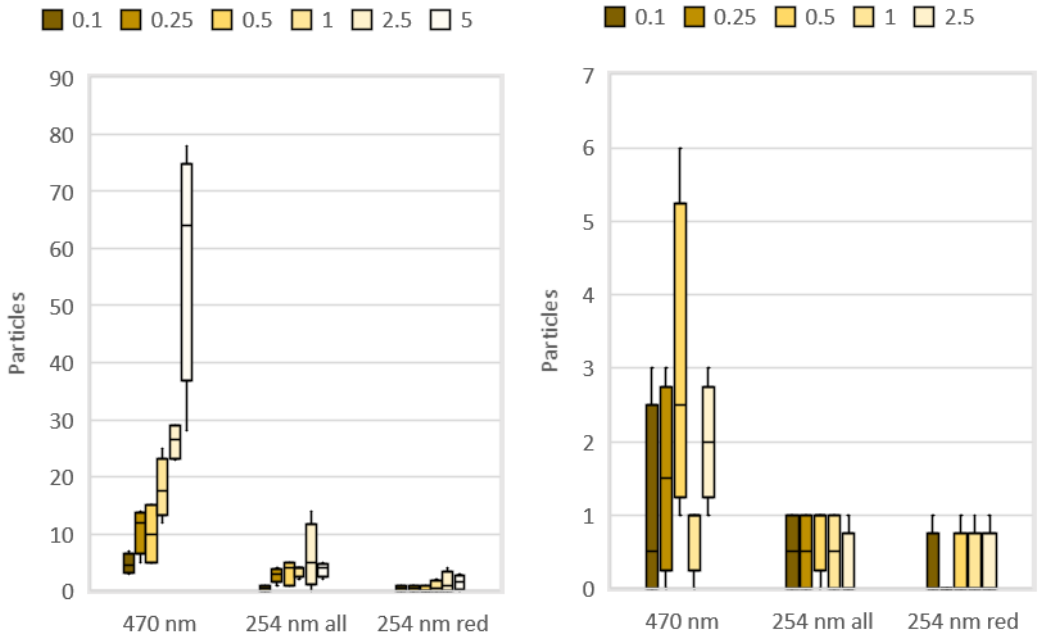

Figure S4. Number of particles obtained in environmental samples for Vouga river (left) and Aveiro lagoon (right), under three conditions (470 nm, 254 nm all particles, 254 nm red particles), depending on volume sampled (0.1, 0.25, 0.5, 1, 2.5, 5 L).