

Supplementary materials

Microplastic footprints in a high-altitude basin of the Tibetan Plateau, China

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Text S1 Selection of separation fluid

CaCl₂ solution have relatively higher density (1.5 g cm⁻³) than NaCl solution (1.2 g cm⁻³), which may have high recoveries of PET (density 1.34–1.58 g cm⁻³), PVC (density 1.16–1.35 g cm⁻³) and other MPs with densities greater than 1.2 cm⁻³. However, the filter and MPs will covered in a thick brownish material after density separation using a CaCl₂ due to the divalent Ca ions will lead to flocculated of organic material (Scheurer and Bigalke, 2018). Therefore, the separation fluid was changed to NaCl solution during the last two flotation processes.

2. Supplementary Figures



Figure S1 Photographs of typical sampling site (**a.** urban river, **b.** rural river, **c.** lake, **d.** agricultural channel.)

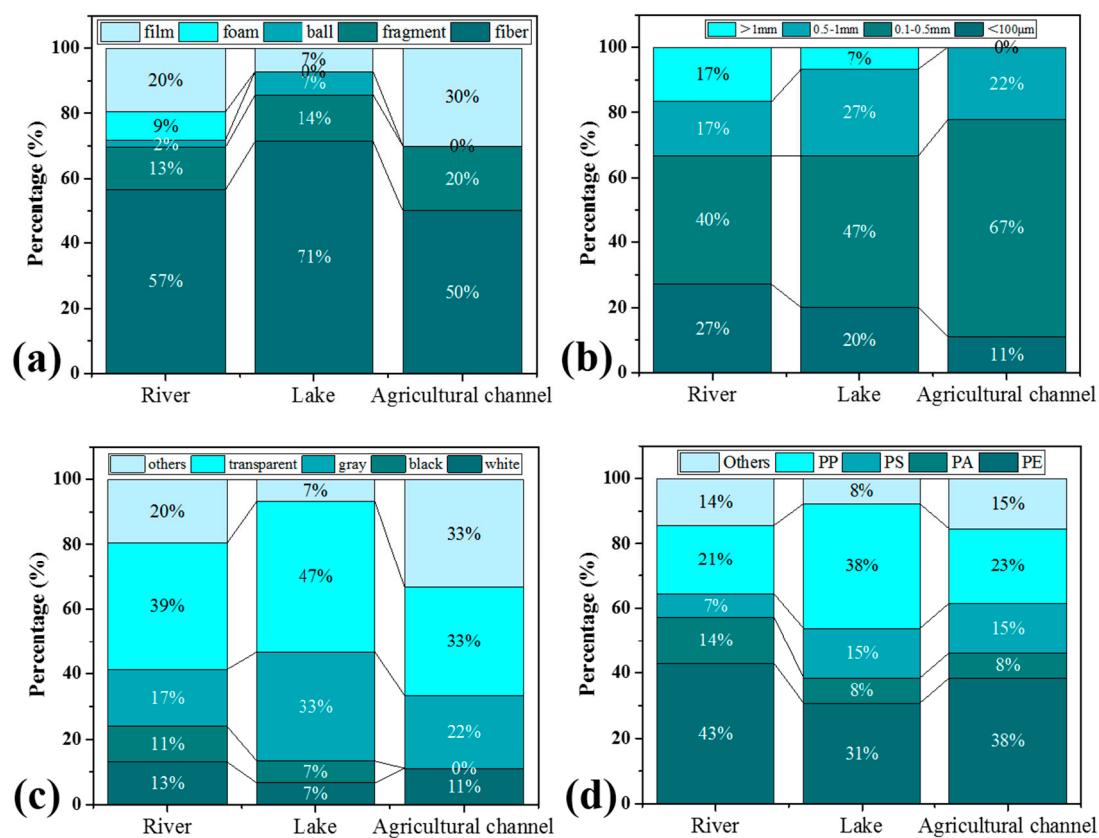


Figure S2 (a) Shape, (b) size, (c) color and (d) polymer distribution of MPs between different water body types.

3. Information of sampling sites

Table S1 Information for each sampling site of surface water and sediment

Site	Water type	sediment	Longitude	Latitude	Elevation (m)
R1	River (N=9)	-	94°27'53"	29°27'06"	3000
R2		-	93°4'5"	29°3'1"	3737
R3		-	92°34'21"	29°8'51"	3599
R4		Y	90°46'5"	29°16'37"	3580
R5		Y	91°53'18"	28°58'40"	3880
R6		Y	91°45'15"	31°38'28"	4550
R7		Y	91°6'2"	30°28'48"	4231
R8		-	90°34'0"	30°4'37"	4228
R9		-	91°6'25"	29°38'41"	3606
L1	Lake (N=3)	Y	91°59'15"	28°10'17"	4529
L2		-	90°0'46"	30°48'5"	4760
L3		Y	91°5'16"	31°14'38"	4670
A1	Agricultural channel (N=2)	Y	90°19'8"	31°20'17"	4610
A2		Y	90°57'41"	29°32'1"	3620

Table S2 Polymers of MPs identified in the water of study area

Number	Polymer type	abbreviation
1	polypropylene	PP
2	polyethylene	PE
3	polyamide/nylon	PA
4	polystyrene	PS
5	polyethylene terephthalate	PET
6	polyvinyl chloride	PVC
7	ethylene vinyl acetate	EVA
8	polycarbonate	PC
9	polyvinyl alcohol	PVA
10	polyurethane	PU
11	Polyisoprene	-
12	polyacrylonitrile	PAN
13	isoprene rubber	IR