

Supplementary Material

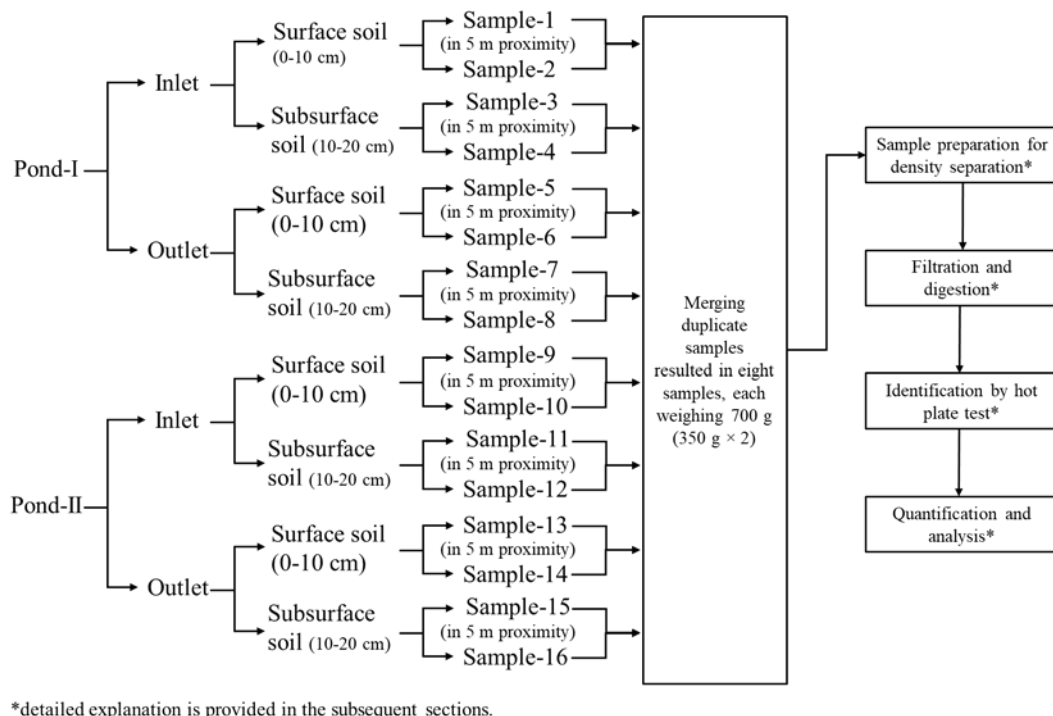


Fig. S1 Sampling procedure at inlets and outlets of Pond-I and II. Each of the samples was prepared for density separation, followed by filtration, digestion, identification, and quantification processes explained in detail in the subsequent sections.

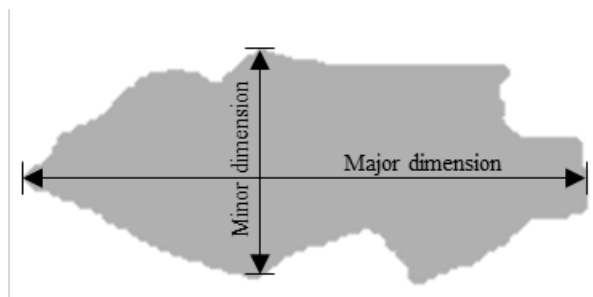


Fig. S2 MP particle size measurement.

Table S1 MP particle size longitudinal and vertical distribution.

Pond	Location	Depth	Size (μm)							Difference in median size (%)	
			Minimum	Median	Mean	Maximum	Median		Inlet and outlet	Surface and subsurface soil	
							By Depth	of surface soils of inlet and outlet			of subsurface soils of inlet and outlet
Pond-I	Inlet	Surface soil	15	50	94.8	700	33	36	18	35	52
		Subsurface soil	12	15	66	250					
	Outlet	Surface soil	10	22.5	54	500	21				
		Subsurface soil	15	20	34.4	650					
Pond-II	Inlet	Surface soil	12	40	72.5	400	35	40	28	7	31
		Subsurface soil	12	30	66.3	600					
	Outlet	Surface soil	12	40	75.8	700	33				
		Subsurface soil	12	25	70.4	750					

Table S2 MP particle concentration with longitudinal and vertical distribution.

Pond	Location	Sampling depth	Particle concentration									
			(numbers/kg DW)			Difference between inlet and outlet (%)		(numbers/kg DW)		Difference between surface and subsurface soils (%)		
			Each sample	Pond average	Average of depths	for each pond (more at inlet)	for both ponds (more at inlet)	Average of surface soils	Average of subsurface soils	for each pond (more in surface soil)	for both ponds (more in surface soil)	
I	Inlet	Surface soil	31089	37517	35245	11	18	38013	37020	3	30	
		Subsurface soil	39400									
	Outlet	Surface soil	44937		39789							
		Subsurface soil	34640									
II	Inlet	Surface soil	65511	54082	47236	22	69833.5	38330	45			
		Subsurface soil	28960									
	Outlet	Surface soil	74156		60928							
		Subsurface soil	47700									

Table S3 MP mass concentration with longitudinal and vertical distribution.

Pond	Location	Sampling depth	Mass concentration						
			(mg/kg DW)					Difference between surface and subsurface soils (%)	
			Each sample	Pond average	Average of depths	Average of surface soils	Average of subsurface soils	for each pond (more in surface soil)	for both ponds (more in surface soil)
I	Inlet	Surface soil	265.13	110	203.53	142.52	77.265	46	50
		Subsurface soil	141.93						
	Outlet	Surface soil	19.91		16.26				
		Subsurface soil	12.6						
II	Inlet	Surface soil	236.41	167	148.75	225.95	108.35	52	
		Subsurface soil	61.09						
	Outlet	Surface soil	215.49		185.55				
		Subsurface soil	155.61						

Table S4 MP shape distribution.

Pond	Location	Depth	FR (%)		PT (%)		FI (%)		FM (%)		FB (%)	
			each sample	for both ponds	each sample	for both ponds	each sample	for both ponds	each sample	for both ponds	each sample	for both ponds
Pond-I	Inlet	Surface soil	85	69	2	18	5	8	7	4	0	1
		Subsurface soil	58		28		8		6		0	
	Outlet	Surface soil	78		3		8		10		1	
		Subsurface soil	91		2		2		4		1	
Pond-II	Inlet	Surface soil	62		23		14		1		0	
		Subsurface soil	67		23		8		0		2	
	Outlet	Surface soil	58		26		12		3		1	
		Subsurface soil	55		33		6		4		3	

Table S5 Summary of longitudinal and vertical distributions of MP size, particle, and mass concentration, and shape distribution.

Distribution matrices	Pond-I		Pond-II	
	Longitudinal distribution (Inlet vs. outlet)	Vertical distribution (Surface vs. subsurface soil)	Longitudinal distribution (Inlet vs. outlet)	Vertical distribution (Surface vs. subsurface soil)
MP size distribution	Non-uniform	Non-uniform	Uniform	Non-uniform
MP particle concentration	Non-uniform	Uniform	Non-uniform	Non-uniform
MP mass concentration	Non-uniform	Non-uniform	Non-uniform	Non-uniform
MP shapes distribution	Non-uniform	Non-uniform	Non-uniform	Non-uniform