

## Supplementary Information (SI)

# Assessing the Occurrence and Distribution of Microplastics in Surface Freshwater and Wastewaters of Latvia and Lithuania

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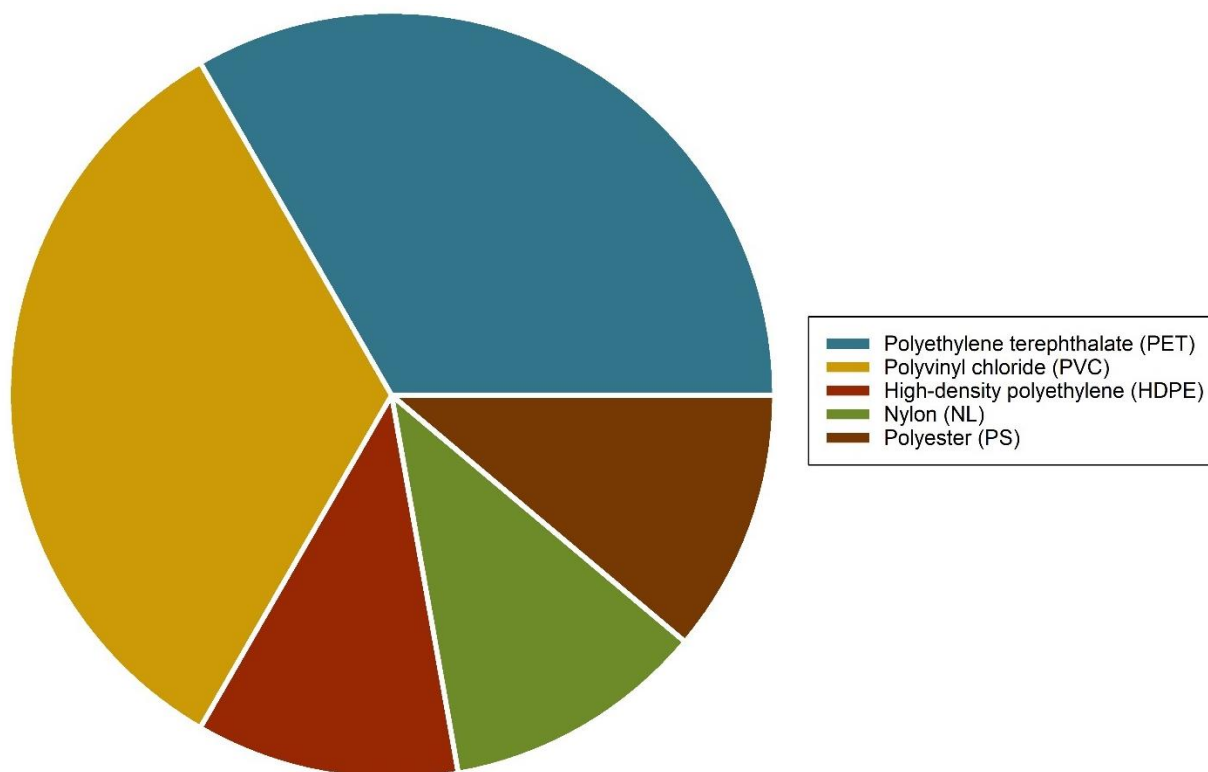
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**Table S1** Sampling location and physicochemical properties of influent, effluent, upstream and downstream in Latvia and Lithuania.

| Location                                 | Acronym<br>(summer/winter) | Latitude and longitude | pH<br>(summer/winter) | Temperature (°C)<br>(summer/winter) | Dissolved oxygen<br>(mg/L)<br>(summer/winter) |
|--|----------------------------|------------------------|-----------------------|-------------------------------------|---|
| Klaipeda WWTP inlet                      | SLT1/WLT1 <sup>1,2</sup>   | 55.639695, 21.253412   | 7.20/7.00             | 9.20/4.50                           | -   |
| Klaipeda WWTP outlet                     | SLT2/WLT2 <sup>1,2</sup>   | 55.639695, 21.253412   | 8.08/7.70             | 10.00/4.70                          | -   |
| Klaipeda strait upstream                 | SLT3/WLT3 <sup>1,2</sup>   | 55.665355, 21.147542   | 8.60/-                | 24.00/1.80                          | 8.30/13.20                                    |
| Klaipeda strait downstream               | SLT4/WLT4 <sup>1,2</sup>   | 55.669792, 21.145073   | 8.70/-                | 24.40/3.20                          | 8.60/12.90                                    |
| Siauliai WWTP inlet                      | SLT5/WLT5 <sup>1,2</sup>   | 56.006635, 23.296027   | 7.94/7.87             | 21.00/12.70                         | -/0.85  |
| Siauliai WWTP outlet                     | SLT6/WLT6 <sup>1,2</sup>   | 56.006635, 23.296027   | 7.78/7.75             | 18.00/8.70                          | -/8.50  |
| Siauliai strait upstream (Kulpe River)   | SLT7/WLT7 <sup>1,2</sup>   | 55.982637, 23.327158   | -                     | 22.90/6.10                          | 5.09/9.34                                     |
| Siauliai strait downstream (Kulpe River) | SLT8/WLT8 <sup>1,2</sup>   | 55.989392, 23.338797   | -                     | 22.50/6.30                          | 6.64/9.50                                     |
| Liepaja WWTP inlet                       | SLV1/WLV1 <sup>3,4</sup>   | 56.5968824, 21.0192835 | -                     | -                                   | -   |
| Liepaja WWTP outlet                      | SLV2/WLV2 <sup>3,4</sup>   | 56.5962711, 21.0203724 | -                     | -                                   | -   |
| Liepaja strait upstream (Baltic Sea)     | SLV3/WLV3 <sup>3,4</sup>   | 56.599066, 20.998      | -                     | -                                   | -   |
| Liepaja strait downstream (Baltic Sea)   | SLV4/WLV4 <sup>3,4</sup>   | 56.599066, 20.998      | -                     | -                                   | -   |
| Daugavpils WWTP inlet                    | SLV5/WLV5 <sup>3,4</sup>   | 55.8763647, 26.5052368 | -                     | -                                   | -   |
| Daugavpils WWTP outlet                   | SLV6/WLV6 <sup>3,4</sup>   | 55.8774556, 26.5051402 | -                     | -                                   | -   |
| Daugavpils strait upstream               | SLV7/WLV7 <sup>3,4</sup>   | 55.87223, 26.50251     | 7.41/7.58             | 16.40/0.90                          | 3.17/10.30                                    |
| Daugavpils strait downstream             | SLV8/WLV8 <sup>3,4</sup>   | 55.87695, 26.50243     | 7.27/7.61             | 17.80/4.10                          | 4.09/10.60                                    |

<sup>1</sup>Summer samples in Lithuania (SLT)<sup>2</sup>Winter samples in Lithuania (WLT)<sup>3</sup>Summer samples in Latvia (SLV)<sup>4</sup>Winter samples in Latvia (WLV)



**Figure S1.** Types of polymers detected by RS in 9 water samples in Latvia and Lithuania.

**Table S2** Size, shape, and color of MP particles in surface water and wastewater of Latvia.

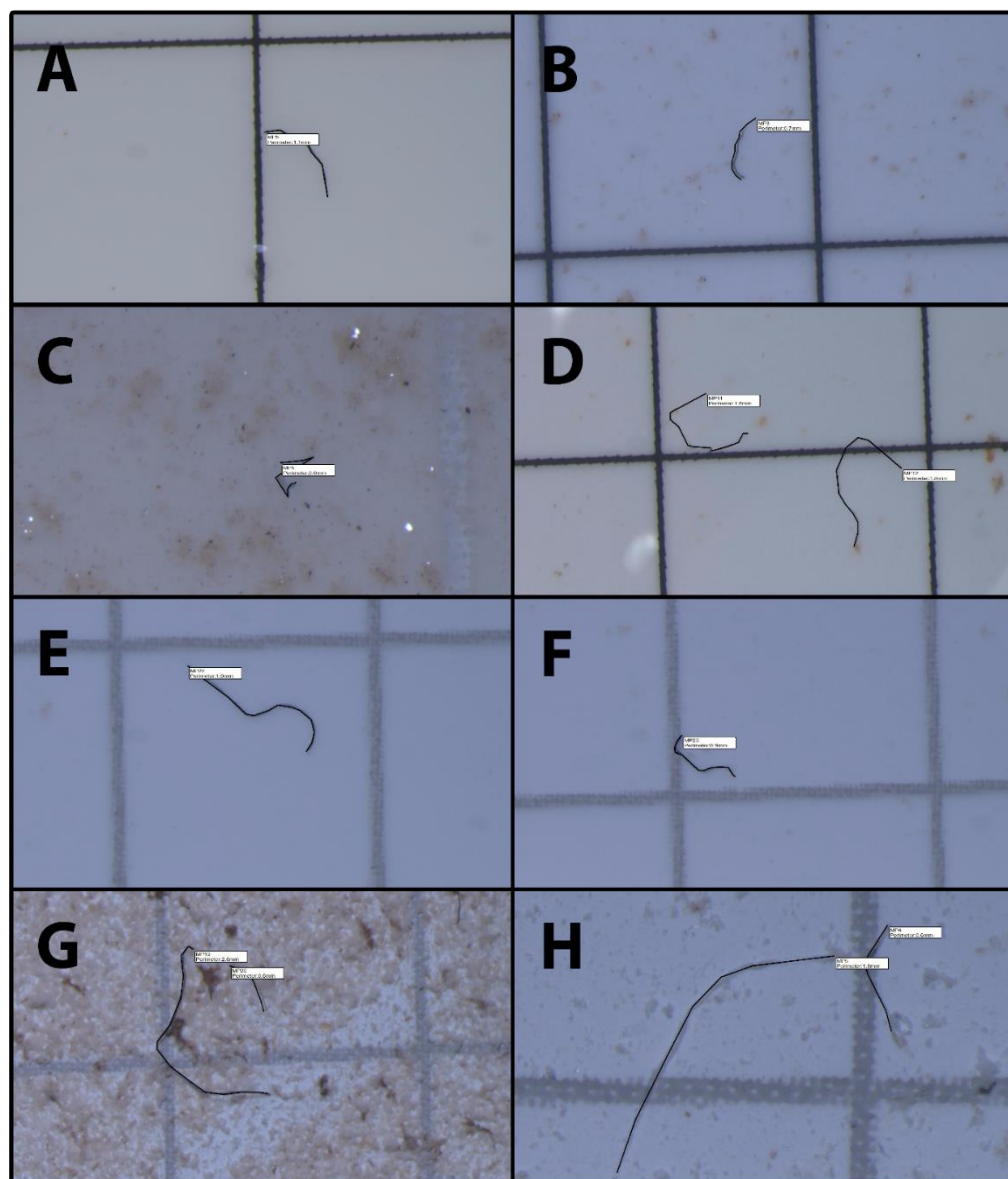
| Samples             | Size (mm) |          |       |     | Shape |          | Color       |        |     |      |       |
|---------------------|-----------|----------|-------|-----|-------|----------|-------------|--------|-----|------|-------|
|                     | <0.25     | 0.25-0.5 | 0.5-1 | 1-5 | Fiber | Fragment | Transparent | Yellow | Red | Blue | Black |
| SLV1 <sup>1,6</sup> | 1         | 0        | 0     | 0   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| SLV2 <sup>1,6</sup> | 0         | 0        | 0     | 1   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| SLV3 <sup>1,5</sup> | 0         | 0        | 2     | 0   | 2     | 0        | 0           | 0      | 0   | 2    | 0     |
| SLV4 <sup>1,5</sup> | 0         | 0        | 2     | 3   | 5     | 0        | 0           | 0      | 0   | 1    | 4     |
| SLV5 <sup>1,6</sup> | 0         | 0        | 0     | 1   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| SLV6 <sup>1,6</sup> | 0         | 0        | 3     | 10  | 13    | 0        | 0           | 0      | 0   | 6    | 7     |
| SLV7 <sup>1,5</sup> | 1         | 4        | 1     | 5   | 11    | 0        | 0           | 0      | 1   | 8    | 2     |
| SLV8 <sup>1,5</sup> | 0         | 0        | 0     | 1   | 1     | 0        | 0           | 0      | 0   | 0    | 1     |
| WLV1 <sup>2,6</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV2 <sup>2,6</sup> | 1         | 0        | 0     | 0   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| WLV3 <sup>2,5</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV4 <sup>2,5</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV5 <sup>2,6</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV6 <sup>2,6</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV7 <sup>2,5</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLV8 <sup>2,5</sup> | 0         | 0        | 0     | 3   | 3     | 0        | 0           | 0      | 0   | 3    | 0     |

<sup>1</sup>Summer samples in Latvia (SLV)<sup>2</sup>Winter samples in Latvia (WLV)<sup>3</sup>Summer samples in Lithuania (SLT)<sup>4</sup>Winter samples in Lithuania (WLT)<sup>5</sup>Surface water<sup>6</sup>Wastewater

**Table S3** Size, shape, and color of MP particles in surface water and wastewater of Lithuania.

| Samples             | Size (mm) |          |       |     | Shape |          | Color       |        |     |      |       |
|---------------------|-----------|----------|-------|-----|-------|----------|-------------|--------|-----|------|-------|
|                     | <0.25     | 0.25-0.5 | 0.5-1 | 1-5 | Fiber | Fragment | Transparent | Yellow | Red | Blue | Black |
| SLT1 <sup>3,6</sup> | 0         | 3        | 0     | 0   | 2     | 1        | 0           | 0      | 1   | 1    | 1     |
| SLT2 <sup>3,6</sup> | 0         | 1        | 2     | 2   | 5     | 0        | 0           | 1      | 2   | 2    | 0     |
| SLT3 <sup>3,5</sup> | 0         | 6        | 0     | 0   | 6     | 0        | 0           | 0      | 1   | 4    | 1     |
| SLT4 <sup>3,5</sup> | 0         | 0        | 1     | 1   | 2     | 0        | 0           | 0      | 0   | 1    | 1     |
| SLT5 <sup>3,6</sup> | 0         | 0        | 1     | 0   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| SLT6 <sup>3,6</sup> | 2         | 2        | 0     | 7   | 11    | 0        | 2           | 2      | 1   | 3    | 3     |
| SLT7 <sup>3,5</sup> | 1         | 0        | 1     | 5   | 7     | 0        | 0           | 0      | 1   | 5    | 1     |
| SLT8 <sup>3,5</sup> | 0         | 0        | 0     | 4   | 4     | 0        | 0           | 0      | 0   | 1    | 3     |
| WLT1 <sup>4,6</sup> | 0         | 0        | 0     | 0   | 0     | 0        | 0           | 0      | 0   | 0    | 0     |
| WLT2 <sup>4,6</sup> | 4         | 0        | 0     | 0   | 2     | 2        | 0           | 0      | 0   | 3    | 1     |
| WLT3 <sup>4,5</sup> | 0         | 0        | 7     | 4   | 11    | 0        | 0           | 0      | 0   | 5    | 6     |
| WLT4 <sup>4,5</sup> | 0         | 0        | 1     | 0   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| WLT5 <sup>4,6</sup> | 0         | 0        | 0     | 3   | 3     | 0        | 0           | 0      | 0   | 3    | 0     |
| WLT6 <sup>4,6</sup> | 0         | 0        | 1     | 3   | 4     | 0        | 0           | 0      | 0   | 2    | 2     |
| WLT7 <sup>4,5</sup> | 0         | 1        | 0     | 0   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |
| WLT8 <sup>4,5</sup> | 0         | 0        | 0     | 1   | 1     | 0        | 0           | 0      | 0   | 1    | 0     |

<sup>1</sup>Summer samples in Latvia (SLV)<sup>2</sup>Winter samples in Latvia (WLV)<sup>3</sup>Summer samples in Lithuania (SLT)<sup>4</sup>Winter samples in Lithuania (WLT)<sup>5</sup>Surface water<sup>6</sup>Wastewater



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**Figure S2.** Images of MPs observed in Latvia and Lithuania; (A) black fibers with a length of 1.1 mm in Klaipeda upstream, (B) black fibers with a length of 0.7 mm in Klaipeda effluent, (C) black fibers with a length of 0.6 mm in Siauliai influent, (D) black fibers with a length of 1.06 mm and 1.08 mm in Siauliai effluent, (E) black fibers with a length of 1.09 mm in Liepaja upstream, (F) black fibers with a length of 0.9 mm in Liepaja downstream, (G) black fibers with a length of 2.06 mm and 0.6 mm in Daugavpils influent, (H) black fibers with a length of 1.08 mm and 0.6 mm in Daugavpils effluent.