

## High-mountain contamination: microplastic occurrence and risk assessments in fish from Nero Lake, Italy

### Supplementary material

Table S1. Biometric characteristics (length, weight, and sex) and microplastic (MPs) abundance (count per gastrointestinal tract, GIT) of fish species collected from Nero Lake in 2023 and 2024.

| Year | Species              | Length (cm) | Weight (g) | MPs count/GIT |
|------|----------------------|-------------|------------|---------------|
| 2023 | <i>Salmo trutta</i>  | 16.5        | 48.65      | 0             |
| 2023 | <i>Salmo trutta</i>  | 22.5        | 133.83     | 2             |
| 2023 | <i>Salmo trutta</i>  | 20.5        | 93.29      | 2             |
| 2023 | <i>Salmo trutta</i>  | 23.5        | 145.29     | 4             |
| 2023 | <i>Salmo trutta</i>  | 41          | 589.34     | 1             |
| 2023 | <i>Salmo trutta</i>  | 40          | 678.26     | 6             |
| 2023 | <i>P. lumaireul</i>  | 6.5         | 1.84       | 0             |
| 2023 | <i>Salmo trutta</i>  | 20.5        | 90.68      | 6             |
| 2023 | <i>Salmo trutta</i>  | 20          | 81.86      | 2             |
| 2023 | <i>Salmo trutta</i>  | 21.5        | 100.93     | 0             |
| 2023 | <i>Salmo trutta</i>  | 30.5        | 348.9      | 6             |
| 2023 | <i>Salmo trutta</i>  | 19.5        | 80.08      | 3             |
| 2023 | <i>Salmo trutta</i>  | 20.5        | 95.85      | 4             |
| 2023 | <i>Salmo trutta</i>  | 25.5        | 181.3      | 6             |
| 2023 | <i>Salmo trutta</i>  | 38          | 542.52     | 1             |
| 2023 | <i>Salmo trutta</i>  | 17.5        | 58.53      | 1             |
| 2023 | <i>Salmo trutta</i>  | 21.5        | 94.6       | 3             |
| 2023 | <i>Salmo trutta</i>  | 24.5        | 126.21     | 4             |
| 2023 | <i>Salmo trutta</i>  | 17          | 53.08      | 1             |
| 2024 | <i>Salmo trutta</i>  | 43.2        | 935        | 10            |
| 2024 | <i>Salmo trutta</i>  | 42.5        | 852        | 12            |
| 2024 | <i>S. fontinalis</i> | 21          | 105        | 8             |
| 2024 | <i>Salmo trutta</i>  | 34.8        | 405        | 4             |
| 2024 | <i>Salmo trutta</i>  | 38.7        | 504        | 1             |
| 2024 | <i>Salmo trutta</i>  | 34.8        | 502        | 2             |

|      |                      |      |      |   |
|------|----------------------|------|------|---|
| 2024 | <i>S. fontinalis</i> | 26.2 | 182  | 2 |
| 2024 | <i>Salmo trutta</i>  | 35.1 | 461  | 6 |
| 2024 | <i>P. lumaireul</i>  | 8.7  | 6    | 2 |
| 2024 | <i>P. lumaireul</i>  | 7.2  | 4    | 3 |
| 2024 | <i>P. lumaireul</i>  | 6.5  | 2.18 | 4 |
| 2024 | <i>P. lumaireul</i>  | 7    | 2.32 | 0 |
| 2024 | <i>P. lumaireul</i>  | 5.5  | 1.56 | 1 |
| 2024 | <i>S. fontinalis</i> | 19.3 | 77   | 6 |

Table S2. Values of Contamination Factor (CF) and Pollution Load Index (PLI) for each specimen.

| Year | Species          | Specimen | CF | PLI   |
|------|------------------|----------|----|-------|
| 2023 | <i>S. trutta</i> | 1        | 0  | 0.000 |
| 2023 | <i>S. trutta</i> | 2        | 2  | 1.414 |
| 2023 | <i>S. trutta</i> | 3        | 2  | 1.414 |
| 2023 | <i>S. trutta</i> | 4        | 4  | 2.000 |
| 2023 | <i>S. trutta</i> | 5        | 1  | 1.000 |
| 2023 | <i>S. trutta</i> | 6        | 6  | 2.449 |
| 2023 | <i>S. trutta</i> | 7        | 6  | 2.449 |
| 2023 | <i>S. trutta</i> | 8        | 2  | 1.414 |
| 2023 | <i>S. trutta</i> | 9        | 0  | 0.000 |
| 2023 | <i>S. trutta</i> | 10       | 6  | 2.449 |
| 2023 | <i>S. trutta</i> | 11       | 3  | 1.732 |
| 2023 | <i>S. trutta</i> | 12       | 6  | 2.449 |
| 2023 | <i>S. trutta</i> | 13       | 4  | 2.000 |
| 2023 | <i>S. trutta</i> | 14       | 1  | 1.000 |
| 2023 | <i>S. trutta</i> | 15       | 1  | 1.000 |
| 2023 | <i>S. trutta</i> | 16       | 3  | 1.732 |
| 2023 | <i>S. trutta</i> | 17       | 4  | 2.000 |
| 2023 | <i>S. trutta</i> | 18       | 1  | 1.000 |
| 2024 | <i>S. trutta</i> | 1        | 10 | 3.162 |

|      |                      |   |    |       |
|------|----------------------|---|----|-------|
| 2024 | <i>S. trutta</i>     | 2 | 12 | 3.464 |
| 2024 | <i>S. trutta</i>     | 3 | 4  | 2.000 |
| 2024 | <i>S. trutta</i>     | 4 | 1  | 1.000 |
| 2024 | <i>S. trutta</i>     | 5 | 2  | 1.414 |
| 2024 | <i>S. trutta</i>     | 6 | 6  | 2.449 |
| 2024 | <i>S.fontinalis</i>  | 1 | 4  | 2.000 |
| 2024 | <i>S.fontinalis</i>  | 2 | 1  | 1.000 |
| 2024 | <i>S.fontinalis</i>  | 3 | 3  | 1.732 |
| 2024 | <i>P. lumaieurul</i> | 1 | 2  | 1.414 |
| 2024 | <i>P. lumaieurul</i> | 2 | 3  | 1.732 |
| 2024 | <i>P. lumaieurul</i> | 3 | 4  | 2.000 |
| 2024 | <i>P. lumaieurul</i> | 4 | 0  | 0.000 |
| 2024 | <i>P. lumaieurul</i> | 5 | 1  | 1.000 |