

Occurrence and distribution of microplastics in freshwater benthic invertebrates

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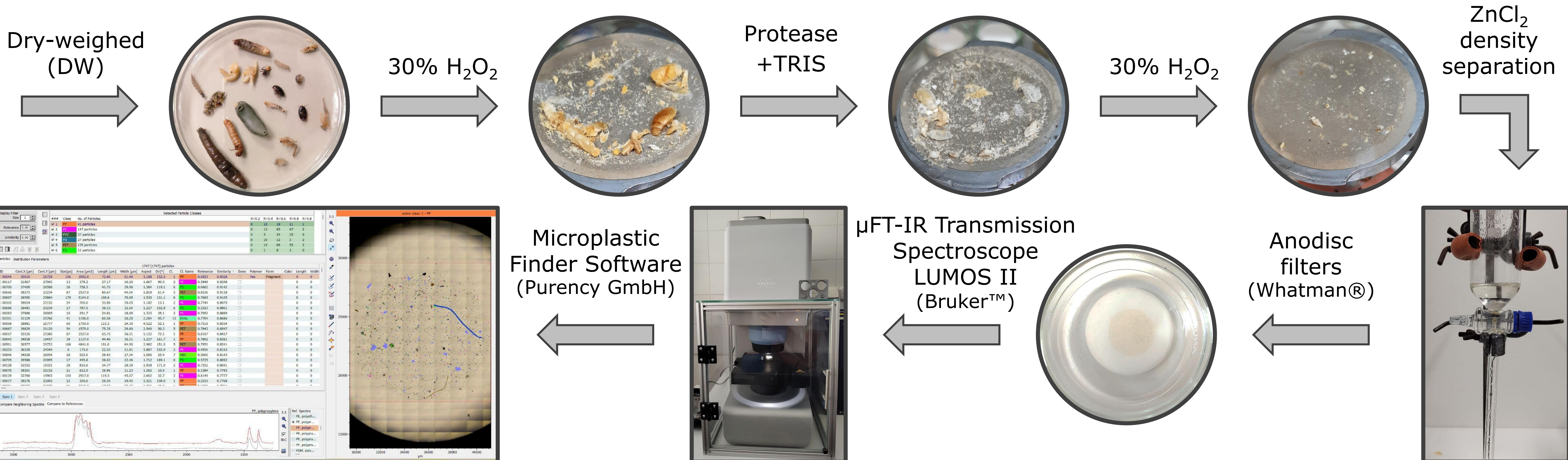
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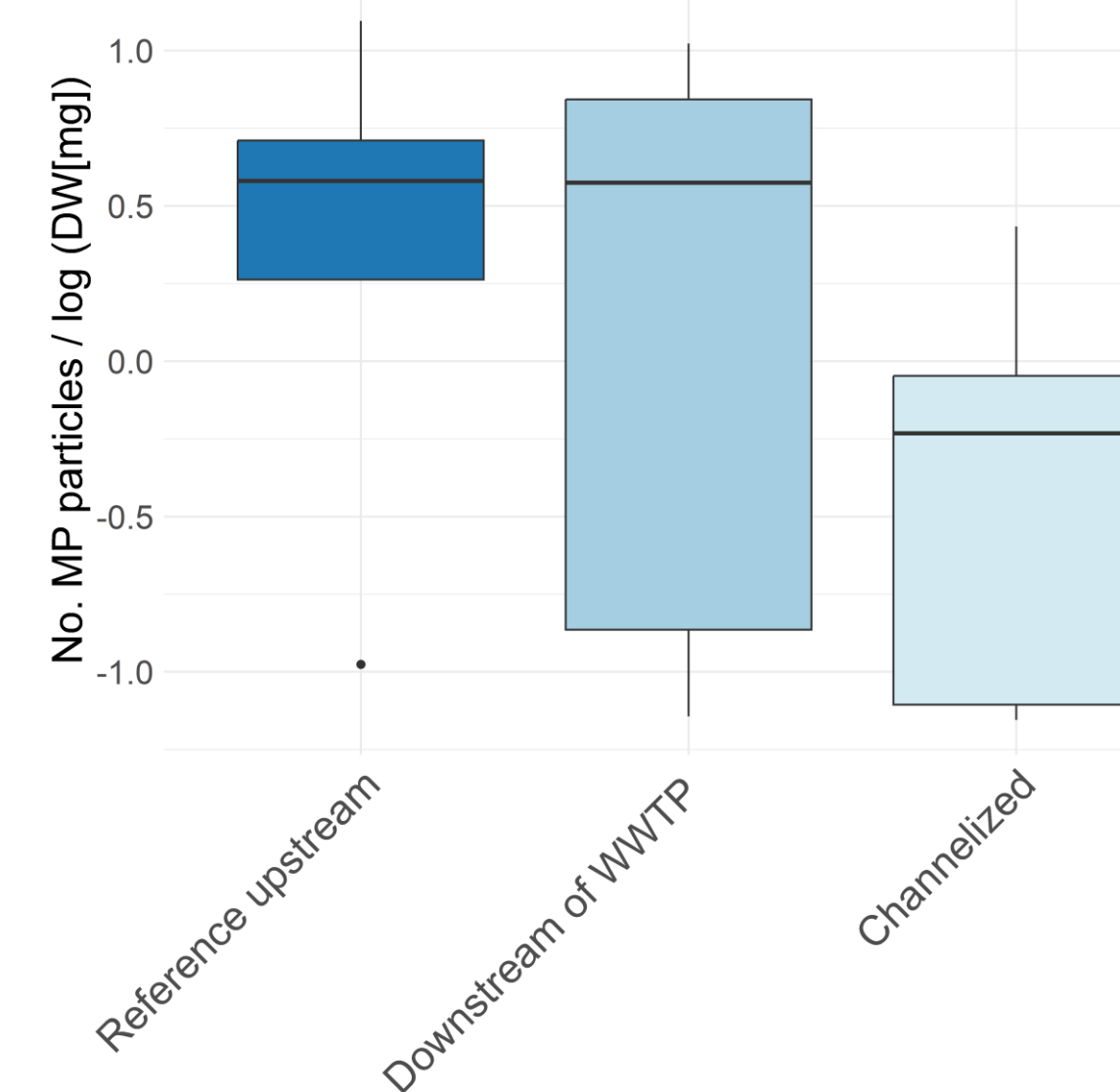
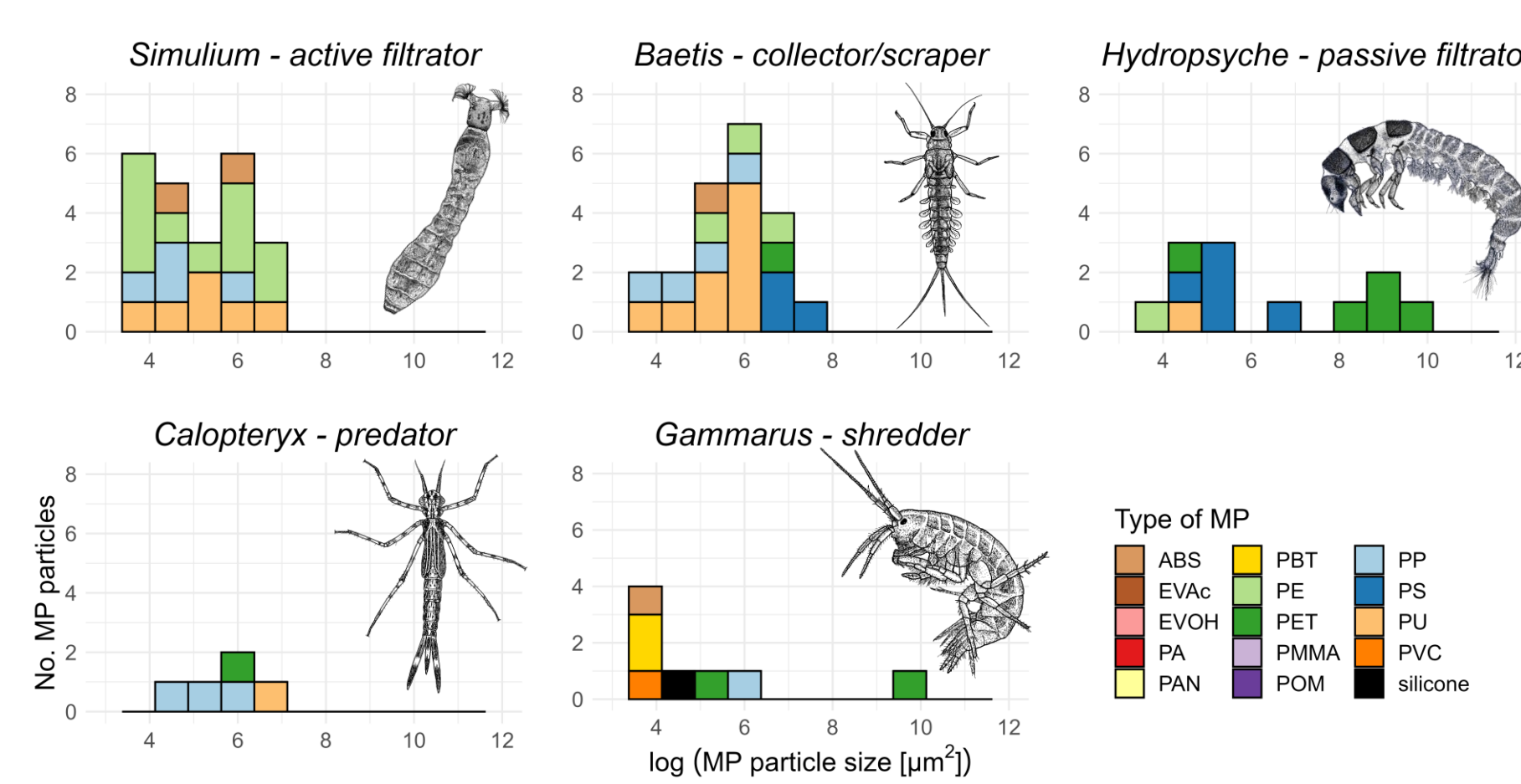
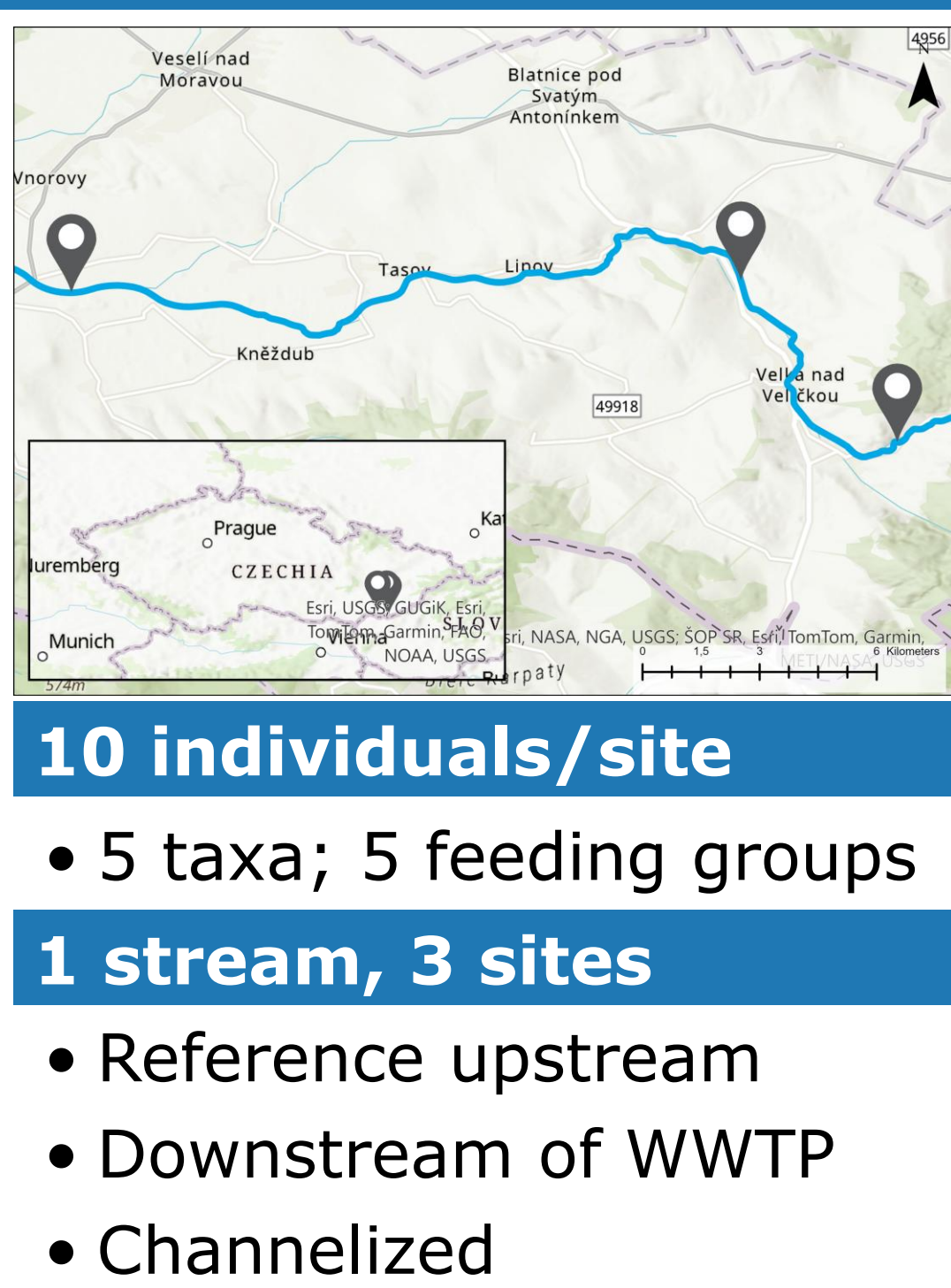
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Microplastics (MP) in Macroinvertebrates

Laboratory purification & MP extraction → Oxidative & Digesting protocols



Study 1: Microplastic composition in various feeding groups along longitudinal gradient

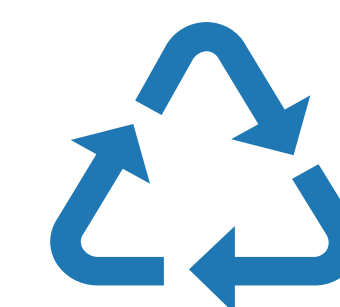


MP particles in all taxa

- Variable composition
- Most in **active filtrators & collectors/scrapers**

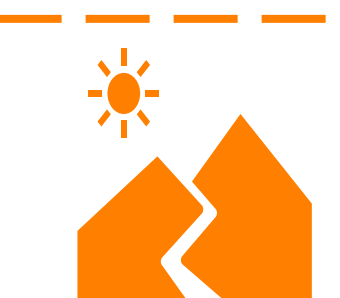
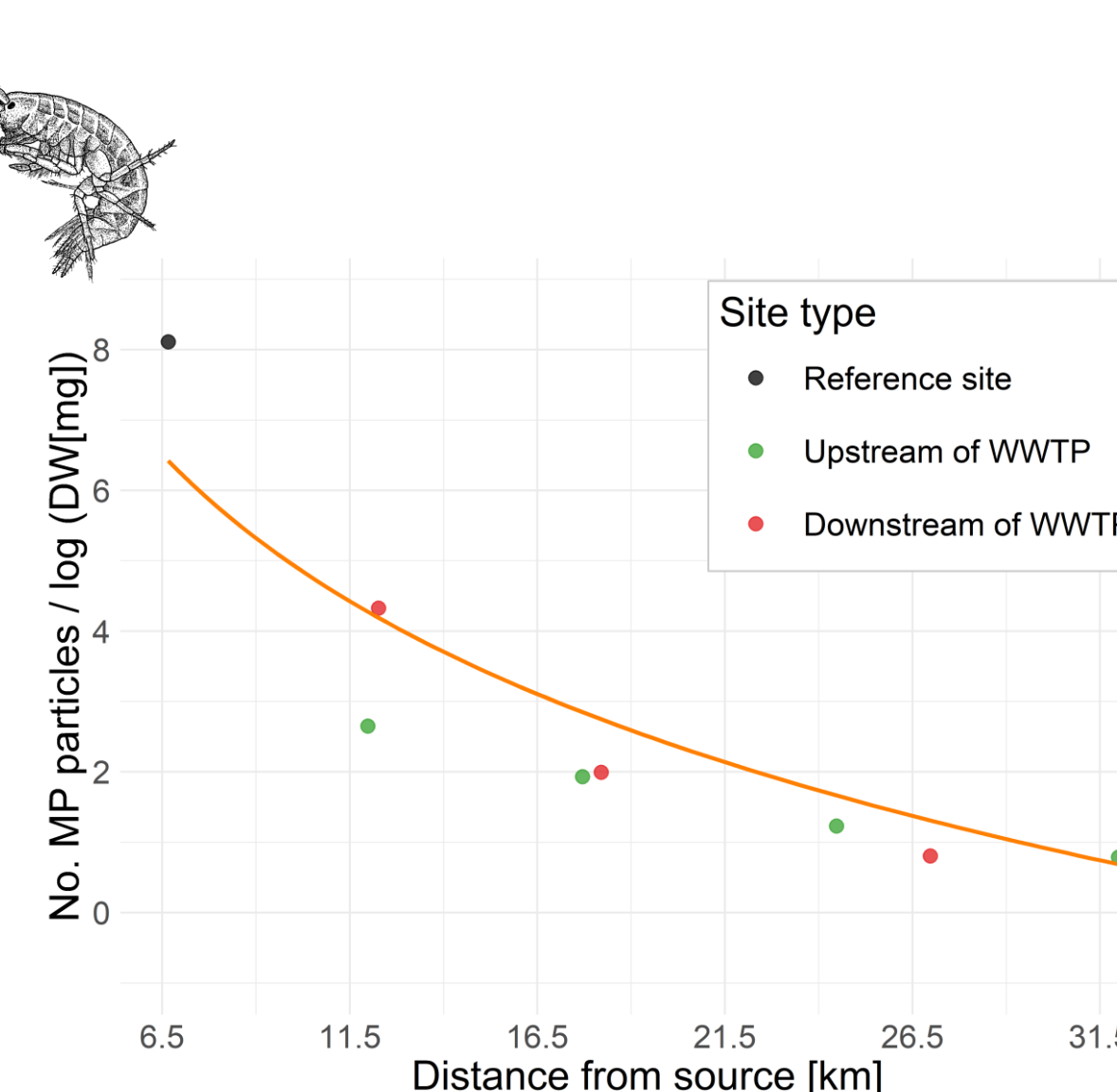
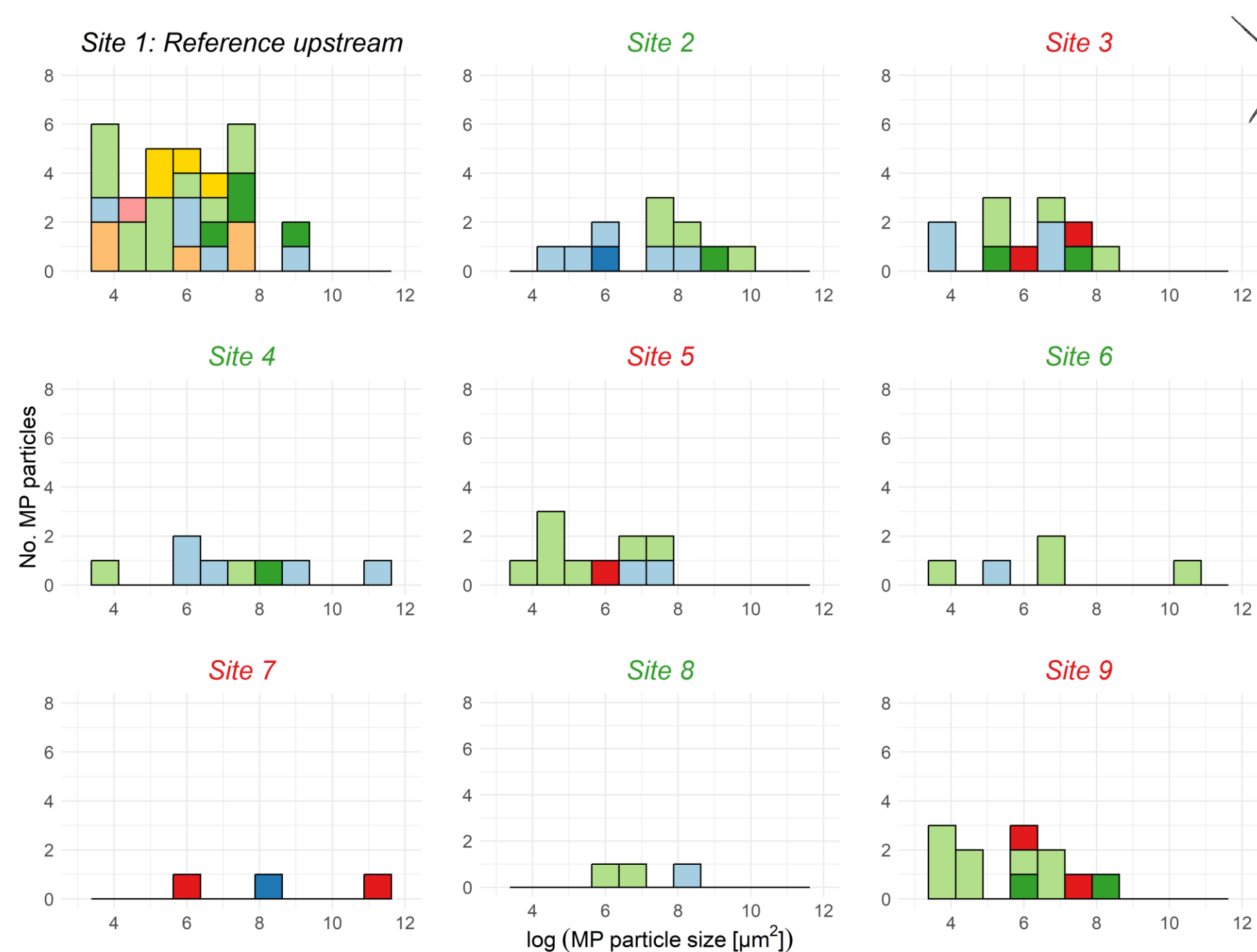
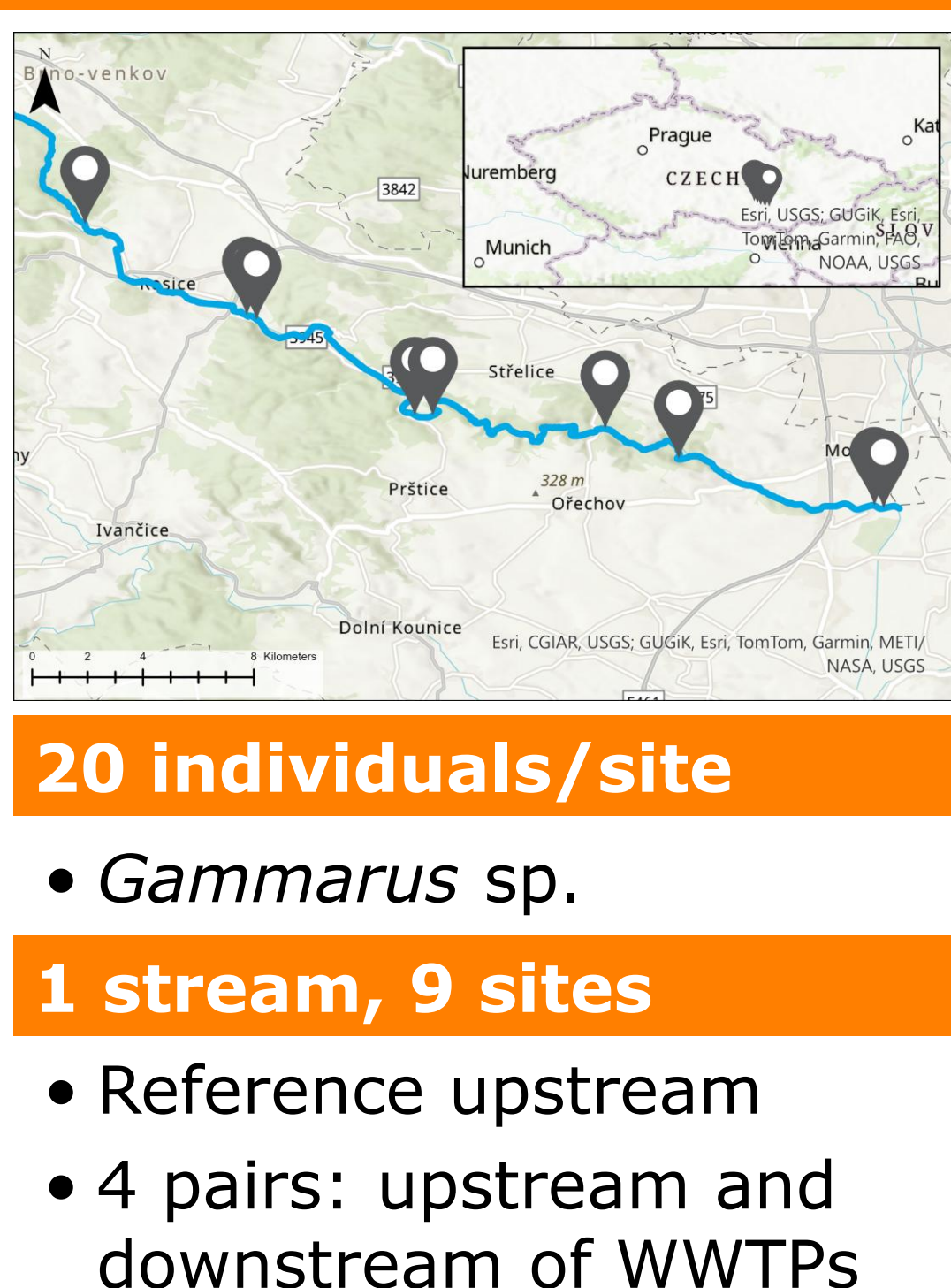


The amount of MPs decreases along the longitudinal gradient



WWTPs do not increase the amount of MPs

Study 2: Microplastic dynamics in longitudinal gradient with focus on point sources of pollution (WWTPs)



Most MP particles at upper reference site



Atmospheric deposition?

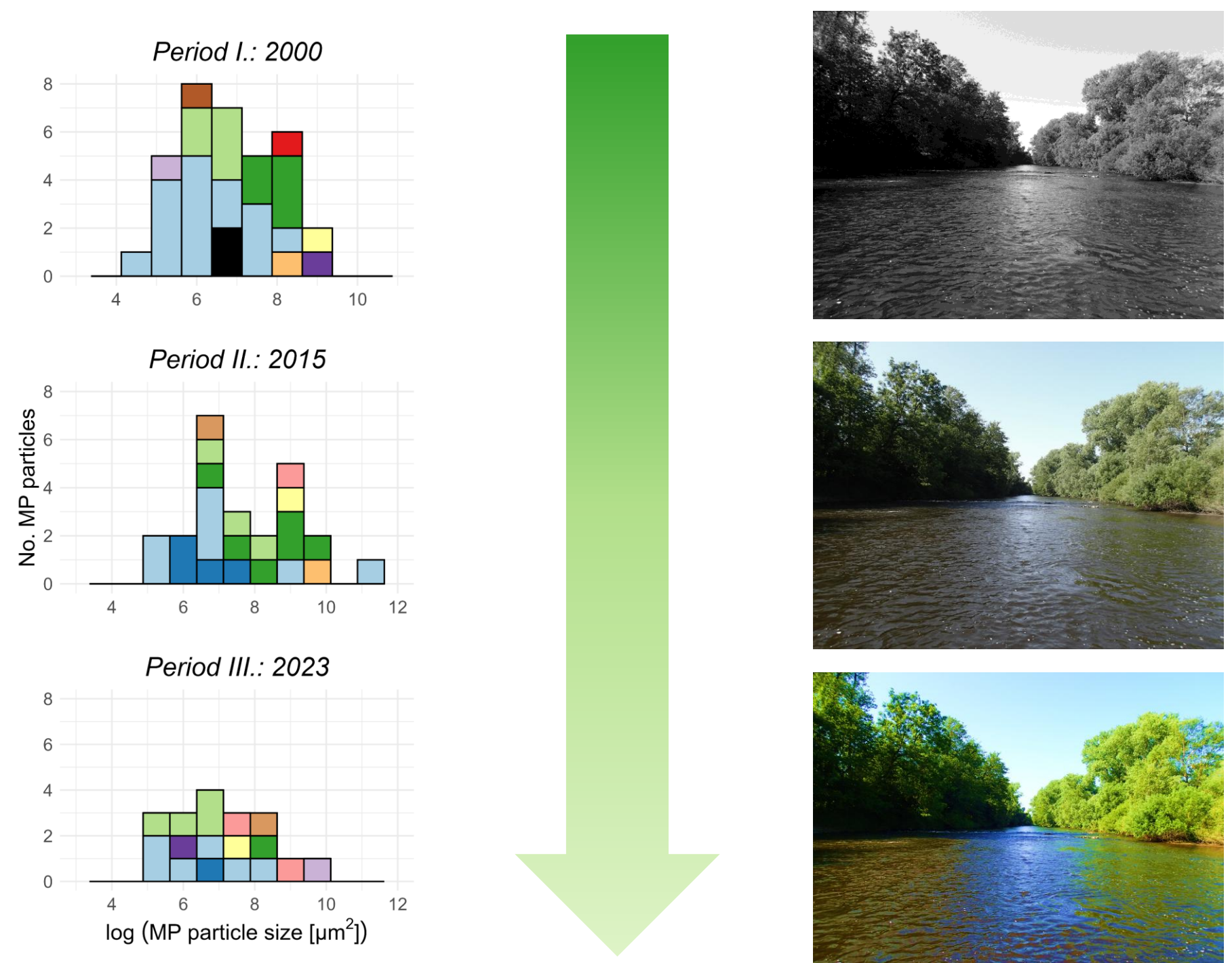
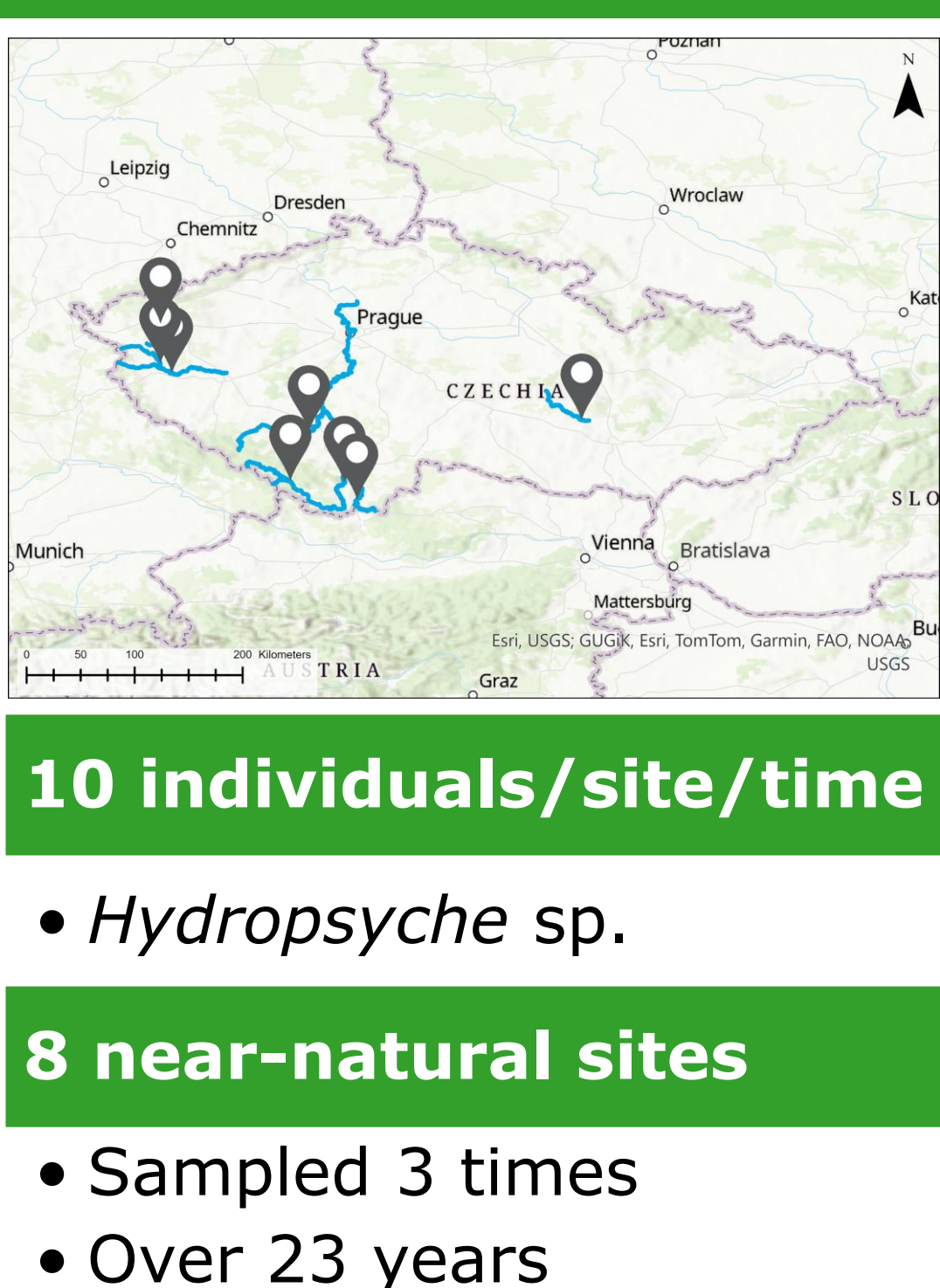


Gradual MP decrease in longitudinal gradient

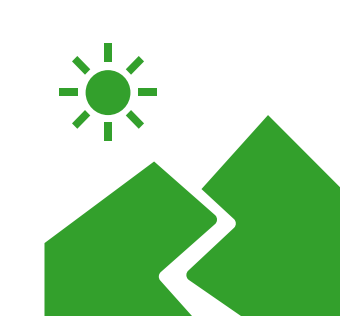


No general pattern below WWTPs

Study 3: Temporal variation of microplastic pollution in pristine streams over two decades



The amount of MPs decreased over the 23-year study period



High MP amounts in the upper river parts, even in protected areas



Atmospheric deposition?