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## **GWMicroPlast project – researching microplastics in groundwater**

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Microplastics are recognised as an emerging pollutant. Microplastics describe plastic particles between 1 µm and 5 mm, which may be produced in this size (primary microplastics) or originate from bigger plastic debris subjected to decay or wear in the environment (secondary microplastics). Research in the field of microplastics started in the marine environment over 60 years ago but has been focusing on other environments only for the past 25 years. Microplastic particles have been observed almost everywhere – in oceans, rivers, wetlands, groundwater, lakes, air, plants, animals and people. Water is identified as the main transport medium of microplastics, however, only a few more recent studies identified microplastics in groundwater. Groundwater is an important drinking water resource in many parts of the world, e.g., in Slovenia, 98 % of drinking water demands are covered by groundwater resources.

This contribution gives the main subject of the ongoing research project GWMicroPlast, within which we will investigate the entire pathway of the microplastics and other pollutants linked with plastics pollution through the aquifer, starting from potential sources to the transport in the unsaturated zone and saturated zone and focusing on the evaluation of the presence of microplastics in different groundwater zones and on the improvement of understanding of microplastics migration through the aquifer. Within the scope of the proposed project, we aim to check the status of microplastic pollution in all three types of drinking water aquifers, intergranular, karst and fissured, in Slovenia. Special attention will be paid to developing methods for sampling and analysing microplastics in groundwater for different aquifers. The transport processes of microplastics in the gravel unsaturated zone will be investigated in more detail by a tracing experiment in the lysimeter.

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