

More plastic particulates than fish larvae in the Danube

Andreas Fath will be swimming 2700 km for the cleandanube project - for a plastic-free Danube.

They are often microscopic, barely visible to the naked eye. And yet they present an imminent danger to humans and animals. For years now, there's been more plastic particulates floating through the Danube than fish larvae - and the number is growing day after day. The Danube, in turn, washes over 4 tons of plastic into the Black Sea - every single day. Yet the debate regarding microplastics and the dangers they pose to the environment are not new - though many people remain unaware of the problem. One man is striving to change all that: Andreas Fath. He is a professor of chemistry at Furtwangen University - and he is on a mission: He is wading into the lifeline of Europe to traverse the entire "swimmable" stretch of the river - a length of 2700 km. In the process, he will cross ten countries and encounter a wide variety of cultures. Fath will be accompanied on his journey by a small team responsible for the organisation and implementation of the project.

Along for the ride: an educational workshop programme to make the pollution of the Danube real and tangible. A mobile knowledge workshop, informational materials and a campaign coordinated with partner organisations will provide added attention to this all-important issue.

Together with local organizations, a variety of events will be implemented at numerous stops along the way. These include cleanups, swim meets and paddling activities, lectures, receptions and the involvement of local institutions. Also on the journey will be a mobile laboratory to analyse water samples on a regular basis. These will be immediately posted onto the project website. A passive sampler attached to the wetsuit imitating fish skin is to provide additional insights.

Through these numerous, interrelated measures, the transnational project will make a fundamental contribution to water protection. The aim is to reduce water pollution, keep out plastic waste, spread awareness of the dangers of microplastics and enhance appreciation of the Danube as a natural habitat vital to the people living along the river.

Some Danube-adjacent countries have neither functioning bottom-return systems nor effective waste prevention strategies. Plastic bottles and bags, and other macro-plastic waste can be found in the riparian areas as well as at the bottom of the river bed.

Microplastics are a serious problem. As mentioned earlier, researchers have found more plastic particulates in the Danube than fish larvae. In numerous places, swimming in the Danube is hazardous to health because the water is heavily contaminated. As a result, people are deprived of the opportunity to experience the riverscape in its full splendour. The Danube as a water world also lacks appreciation. These woes are not sufficiently taken into account in public discourse, especially across national boundaries. In addition, the lack of information and educational opportunities leads to a lack of motivation and action skillsets among people to initiate positive changes in personal behaviour and to work towards social and political changes.



Strong partners support the transnational project

The AWP, founded in 2011, is a non-profit organisation based in Freiburg im Breisgau. Since 2017 it has initiated nature conservation projects in the Danube region and in 2018 and 2019 successfully implemented two international environmental education projects along the Danube. Andreas Fath is a professor of chemistry at Furtwangen University. In his research on microplastics, he has published numerous articles in journals and textbooks. Through his athletic performance and practical knowledge transfer, he has generated intense interest in water pollution management.

Furtwangen University is a co-organiser of the project providing the endeavour with a mobile laboratory, PR work and doctoral students.

Over 50 organisations from the various Danube-adjacent countries have agreed to join forces. These include not only large and well-known environmental protection organisations, but also medium-sized and small local NGOs, universities, educational institutions, schools, municipalities and cities, as well as supra-regional networks and public institutions.

The project is financially supported by the Baden-Württemberg Foundation and the Postcode Lottery along with the main sponsors Hansgrohe, Menschen brauchen Menschen e.V. and Arburg.

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Funding institutions





Project is being implemented by:

AWP – association for wildlife protection e.V.



University Furtwangen



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