Microplastics in the Apies River in South Africa

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Plastic is valued by humans because it is cheap, lightweight and durable. However, the impact on the environment is serious. Plastic does not completely biodegrade, it just breaks into smaller and smaller particles and eventually micro-particles, which are particles less than 5mm in size. Microplastics occur in different forms including microbeads found in face exfoliants and toothpaste. These small plastic pieces are often mistaken as food and can be ingested by fish and humans eat the fish. Plastic pollution in the marine environment is well documented, however, there are few studies on the extent of pollution in freshwater in South Africa. This project aims to determine whether input from treated sewage water and run-off from the city contributes to microplastic contamination in the Apies River, a river flowing through the capital city, Pretoria. Water samples from the source of the river, where the amount of microplastics should be the least, will be compared to several sites downstream- in the city and further outside the city after a sewage plant and after a dam. The hypothesis is that the microplastic levels will increase after the city and after the sewage plant but decrease after the dam.