

Swiss cities among those with highest cocaine consumption in European comparison study

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Topics: Wastewater

Daily consumption of cocaine in Europe amounts to ca. 360 kilograms. This is the report of an international team of scientists, among them researchers from Eawag, the Swiss Federal Institute of Aquatic Science and Technology. Published in the current issue of the professional journal Science of the Total Environment is an investigation of sewage from ca. 15 million people in 19 European cities for various drugs. Comparable analyses in Switzerland show elevated cocaine use in comparison with other European cities.

Cocaine is considered a lifestyle drug and is very popular on the party scene and as a performance-enhancing drug. In order to determine the quantities consumed in 19 large European cities, an international team of scientists, with the participation of Eawag, used a standard procedure of sewage analysis to show quantities of cocaine and other drugs directly. Testing over a period of one week, researchers measured the concentration of each substance and then drew conclusions about the effective use of each. Christoph Ort from Eawag's Urban Water Management Department and his team contributed significantly to the study design and to quality assurance. This ensured that different sewage systems in different cities could be objectively compared with one another.

Of all the cities investigated, Antwerp and Amsterdam rank highest in cocaine use, with more than 1.5 grams consumed per day and per 1000 residents. Barcelona, London, Milan and Paris show consumption in the 0.5 to 1 gram range. In Scandinavian cities like Stockholm, Oslo or Helsinki use is very low, less than 0.15 grams per day and per 1000 residents. Combining all results shows that cocaine use in Europe per day amounts to ca. 360 kilograms. This figure is ca. 10 to 15 percent of global cocaine production as estimated by the United Nations Office on Drugs and Crime.

Elevated Consumption in Swiss Cities

Eawag and the University of Bern published a paper last year in the professional journal Water Research, describing a study on cocaine in the sewage of Bern, Geneva, Lucerne and Zurich. "The cocaine loads in these cities were of the same order as those in European cities with the highest use of the drug," says Christoph Ort. The loads on weekends and during certain events like the Zurich Street Parade or music festivals were two to four times higher than on ordinary weekdays. These are results from measurements made on single days in 2009, not from data obtained during a single week, as was the case for other European cities.

For this reason, Swiss researchers took part this year in the next international measuring campaign, in which in addition to Basel, Bern, Geneva, St. Gallen and Zurich, many more European and American cities were investigated. Eawag is especially interested in quality data as well as the presence and behaviour of trace substances like medications and household chemicals in sewage. This will make possible new insights into methods for decreasing micropollution in bodies of water.

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