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Preliminary Assessment of Pharmaceuticals and Personal Care Products (PPCPs) in Natural Waters in the El Paso Del Norte Area and Their Impacts on Aquatic Invertebrates

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Preliminary Assessment of Pharmaceuticals and Personal Care Products (PPCPs) in Natural Waters in the El Paso Del Norte Area and Their Impacts on Aquatic Invertebrates

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The Rio Grande is a major source of water for humans and wildlife. The types and concentrations of PPCPs, and their impacts on aquatic life, in the river are virtually unknown. The purpose of this research is to assess their impact on aquatic invertebrates and establish the concentrations of these contaminants in the river and an adjacent wetland. Water and sediment samples were collected from the river and the wetland. Water chemistry parameters were monitored and samples were retained for PPCP analyses. Invertebrates were exposed to PPCPs using modified life cycle tests. LC50 values for caffeine for chironomids ranged from 1.5-1.7 g/L and was 0.4 g/L for rotifer *Platyonus patulus*. Chronic toxicity for *P. patulus* showed a decrease in population growth from the control (0.23) to 300ppm (-0.08) after 5 days. LC50 tests and life cycles tests will be conducted with remaining PPCPs. Because many PPCPs are biologically active, there is the potential for effects on humans and/or non-target organisms when exposed to these compounds in the environment. Thus, monitoring and development of tests that detect more subtle end-points for these compounds are needed.