

The Fate of Pharmaceutically Active Drugs in the Rio Grande and Groundwater

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PURPOSE OF STUDY

This project will look at the presence and fate of organic contaminants in the Rio Grande and shallow groundwater along the Bosque that are being added to the ecosystem via Albuquerque's wastewater treatment plant (WTP). The particular organic compounds that will be studied are caffeine, estrone (a byproduct of birth control prescriptions), and other compounds that originate from our heavy consumption (e.g., antibiotics). The technical ability to analyze such compounds has just become available and now we need to address several questions. What is the fate of these anthropogenic contaminants? How far do they move in the river and in groundwater before they are taken up and transformed by the aquatic biotic community? Are the contaminants physically retained, via adsorption, to clay or other surfaces? In addition, this project will document how the WTP is altering the nutrient, major cation and anion chemistries of the Rio Grande and its shallow aquifer.

RESULTS

This project is ongoing and will be completed by December 31, 2004.



Dr. Laura Crossey's environmental sciences class helping Maceo Carrillo Martinet (far right) determine hydrologic connectivity at the Albuquerque Hispanic Culture Center research site.