# Canine Scent and Microbial Source Tracking in Santa Barbara, CA

Advances in microbial source tracking have enabled communities to gain more information about the specific hosts that may be responsible for elevated indicator bacteria levels in recreational waters. However, even when human-specific contamination can be traced to general areas, finding exact origins remains challenging due to sample costs and processing times. This study sought to test the use of a new qualitative tool for source tracking, canine scent tracking (sewage-sniffing dogs), to provide real-time results and low sample cost for illicit discharge detection.

Canine responses were compared against traditional wastewater indicators, illicit discharge detection tracers, and emerging human-specific waste markers in storm drain locations in Santa Barbara, CA. Canine scent tracking was also tested for effectiveness in locating contaminated inputs to storm drains, addressing a specific hypothesis of contamination arising from illicit dumping from recreational vehicles, and conducting systematic outfall and storm drain reconnaissance. Based on the statistical and qualitative results presented in this pilot-scale study, canine scent tracking is a tool that should be expanded for use by researchers and storm water managers.

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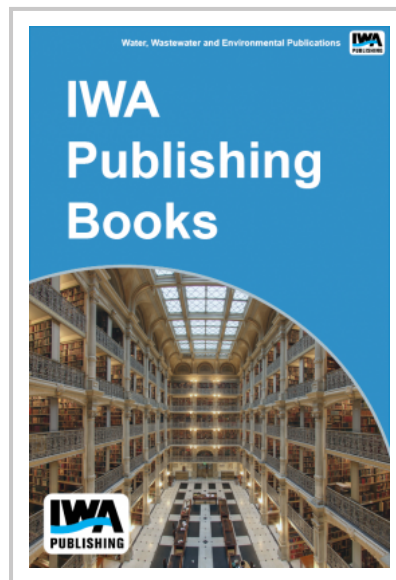
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