

**breakout ABSTRACT**

Abstract No. 10

**TITLE****POTENTIAL RELEVANCE OF PESTICIDES AND VOLATILE ORGANIC COMPOUNDS DETECTED IN THE NATION'S SOURCES OF DRINKING WATER****TRACK****Network Content****OBJECTIVES**

1. The U.S. Geological Survey's National Water-Quality Assessment Program uses a nationally consistent framework for sample collection and analysis.
2. Screening-level assessments are a useful tool for providing a human-health perspective for contaminant occurrence and prioritizing further investigations.
3. Concentrations of pesticides and volatile organic compounds were seldom greater than human-health benchmarks in the Nation's water resources.

**SUMMARY**

The U.S. Geological Survey's National Water-Quality Assessment (NAWQA) Program recently completed decade-long assessments of pesticides and volatile organic compounds (VOCs) in the Nation's water resources. Pesticides in streams and ground water, and VOCs in ground water, were assessed across a broad range of land-use and hydrogeologic settings in major hydrologic systems throughout the U.S. Water samples from 186 streams and about 2,700 domestic and public wells were analyzed for 83 pesticide compounds. About 3,500 samples from domestic and public wells were analyzed for 55 VOCs. Although streams were not sampled at drinking-water intakes and all samples were collected prior to treatment, NAWQA findings provide an indication of potential pesticide and VOC occurrence in sources of drinking water. Pesticide and VOC concentrations were compared to human-health benchmarks in screening-level assessments to provide an initial perspective on the potential relevance of these concentrations to human health. Overall, pesticide and VOC concentrations were each greater than human-health benchmarks in about 1 percent of domestic and public well samples. Organochlorine insecticides, fumigants, and solvents accounted for most of the pesticide and VOC concentrations greater than human-health benchmarks in these well samples. In streams, annual mean pesticide concentrations were seldom greater than human-health benchmarks; most concentrations greater than benchmarks were in streams draining agricultural and urban watersheds, but few drinking-water intakes tap streams in similarly developed watersheds. NAWQA studies do not evaluate the effects of contaminants on human health, but screening-level assessments provide a perspective on the potential for adverse effects and a framework for additional investigations.

**AUTHOR(S):**

Patricia Toccalino, Ph.D.  
USGS

