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PRELIMINARY FINDINGS OF ANTHROPOGENIC ORGANIC COMPOUNDS IN SOURCE WATER AND FINISHED WATERS OF COMMUNITY WATER SYSTEMS

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ABSTRACT: In 2001, the U.S. Geological Survey's National Water-Quality Assessment (NAWQA) Program began its second decade of intensive assessment activities. As a part of this effort, a new assessment activity, termed Source Water-Quality Assessments (SWQAs), was implemented to focus on characterizing the quality of major rivers and aquifers used as a source of supply to some of the largest community water systems (CWSs) in NAWQA study areas. SWQAs are intended to complement existing drinking-water monitoring required by Federal, State, and local programs that focus primarily on post-treatment compliance monitoring. Through SWQAs, the NAWQA Program is increasing its emphasis on characterizing the water quality of rivers and aquifers that are major sources of drinking water and continues to collaborate with other agencies and organizations involved with supplying and managing drinking water. The objectives of SWQAs are two-fold: (1) to determine the occurrence and seasonal changes in concentrations of a broad list of anthropogenic organic compounds (AOCs) in rivers and aquifers that have some of the largest withdrawals for drinking-water supply in the United States, and (2) for compounds found to occur most frequently in source water, to characterize their detection frequencies and concentrations in both source and finished waters. AOCs monitored include selected pesticides, pesticide degradates, volatile organic compounds, polycyclic aromatic hydrocarbons, and select emerging contaminants. This presentation will summarize preliminary findings for about 260 AOCs monitored in source water and the associated finished water of 9 CWS surface-water intakes and of 86 wells from multiple CWSs. Concentrations will be compared to human-health benchmarks, which are U.S. Environmental Protection Agency Maximum Contaminant Levels for regulated compounds and U.S. Geological Survey Health-Based Screening Levels for selected unregulated compounds.

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