

Communicating U.S. Geological Survey Water-Quality Data Using Health-Based Screening Levels

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The U.S. Geological Survey (USGS) is conducting an interagency pilot project with the New Jersey Department of Environmental Protection and the U.S. Environmental Protection Agency (USEPA) to develop, test, and refine approaches to more effectively communicate USGS water-quality information in a human-health context to a variety of audiences. Historically, the USGS has assessed water-quality conditions by comparing water concentration data collected by its National Water-Quality Assessment (NAWQA) program against established drinking-water standards and guidelines. However, because drinking-water standards and guidelines do not exist for many NAWQA analytes, this approach has proven to be insufficient for placing NAWQA data in a human-health context. For this pilot project, contaminants detected in ground water collected as part of the NAWQA study in Glassboro, New Jersey, will be separated into two categories, regulated and unregulated compounds. Regulated compounds have USEPA Maximum Contaminant Levels and/or State drinking-water standards, and unregulated compounds do not have Federal or State drinking-water standards. Contaminant data for regulated compounds will be compared to Federal and State drinking-water standards. For unregulated compounds, contaminant data will be compared to “health-based screening level concentrations” for noncarcinogens and to “screening level ranges” for most carcinogens. The screening levels for unregulated noncarcinogens and screening level ranges for unregulated carcinogens will be based on USEPA Office of Water methodologies for calculating lifetime health advisory and risk specific dose values, respectively. The application of these screening levels will be examined to determine if their use enhances the utility of NAWQA water-quality findings. The findings from the pilot project can potentially be used to identify those regulated and unregulated contaminants that may warrant further attention, such as additional monitoring or management, and these findings will be communicated in collaboration with the appropriate State agencies and the USEPA.

¹The opinions expressed in this article represent those of the author and are not necessarily the opinion or policies of the USEPA.

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