NHDPlus-based Source Water Protection Tools

Roger Anzzolin (EPA OGWDW), James Rineer, William Cooter, Brandon Bergenroth, Peter Ilieve and Amy Wesley (RTI International)

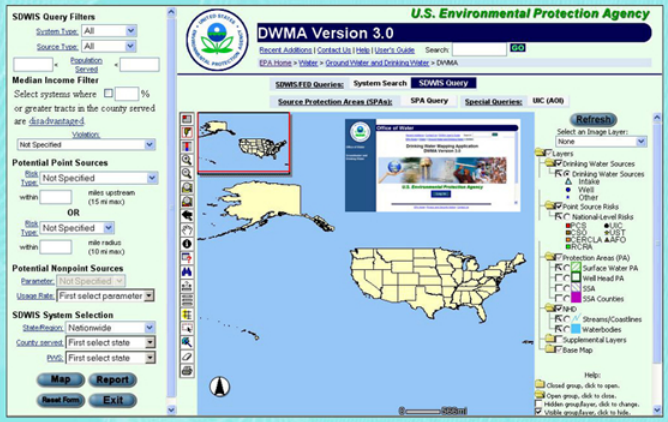
Overview

The U.S. Environmental Protection Agency's Office of Ground Water and Drinking Water (OGWDW) is applying state-of-the-art, web-based mapping and database technology to enhance Agency capabilities to identify major contaminant risks to public drinking water supplies.

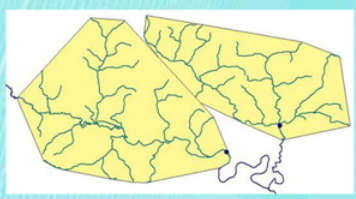
Contact: Roger Anzzolin, Office of Ground Water and Drinking Water
Drinking Water Protection Division, E-Mail: anzzolin.roger@epa.gov

The Drinking Water Mapping Application (DWMA) is a secure web-based geospatial application that:

- ❑ Combines data querying and mapping for surface water and ground water
- ❑ Uses information (e.g., intakes) georeferenced to the NHDPlus
- ❑ Performs NHD-based upstream/downstream and proximity analyses
- ❑ Uses Area of Investigation data mining tools to process both vector data (e.g, for regulated facilities) and raster data
- ❑ Supports cross-program analyses linking Safe Drinking Water Act programs with Clean Water Act TMDL and NPDES programs in the Office of Water
- ❑ Provides functionality that can be generalized to create new data mining and AOI services



Earlier versions of the DWMA used convex hulls as robust Source Protection Areas (SPAs) for NHD flowline networks within 15 miles upstream of drinking water intakes. With the enhanced NHD (the NHDPlus), better analytical one day upstream time of travel SPAs can be developed based on the NHDPlus value-added attributes.



Production steps for two adjacent analytical Source Protection Areas

Using the NHDPlus, flowline networks are built navigating upstream one day (24 hours) time of travel from the downstream pour point of a drinking water intake georeferenced as a point event to the NHD.

NHDPlus catchment polygons are selected related to the one day time of travel flowline Networks.

Catchment boundaries are dissolved to create the final analytical Source Protection Area polygons for the DWMA Version 3.

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