



Ohio Department of Natural Resources Division of Water Fact Sheet

Fact Sheet 92-9

Evaluating Ground Water Pollution Potential in Ohio

A ground water pollution potential mapping program for Ohio has been developed under the direction of the Division of Water, Ohio Department of Natural Resources, using the DRASTIC mapping process. The system consists of two major elements:

1. The designation of mappable units, termed hydrogeologic settings, and
2. The superposition of a relative rating system to determine the pollution potential.

How the Mapping Begins

Hydrogeologic settings form the basis of the system and incorporate the major hydrogeologic factors that affect and control ground water movement and occurrence. These seven factors are:

- Depth to Water
- Net Recharge
- Aquifer Media
- Soil Media
- Topography
- Impact of the Vadose Zone Media
- Hydraulic Conductivity of the Aquifer.

These factors, which form the acronym DRASTIC, are incorporated into a relative ranking scheme that uses a combination of weights and ratings to produce a numerical value called the ground water pollution potential index. Hydrogeologic settings are combined with the pollution potential indexes to create units that can be graphically displayed on a map. A report accompanies each map that includes general geologic and hydrogeologic information and describes the mapping process used to determine the ground water pollution potential of areas in the county.

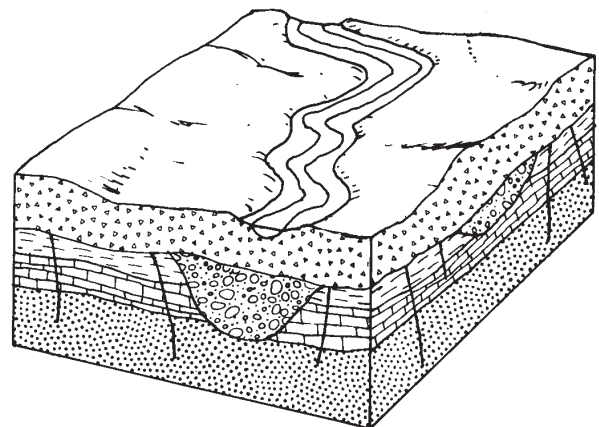
Mapping the Results

Demonstration mapping using the DRASTIC system in Madison County, Ohio, resulted in a map with symbols and colors which illustrate areas of ground water contamination vulnerability. The mapping program

has been implemented on a county-wide basis across the state according to specific selection criteria. These criteria include the availability of basic geologic and hydrogeologic information, a completed, digitized soil survey, and adequately field located water well logs. Consideration will also be given to ground water use within the county, industrial and agricultural activities, and waste disposal practices.

Applications of Pollution Potential Maps

The ground water pollution potential mapping program optimizes the use of existing data to rank areas with respect to relative vulnerability to contamination from the surface. Ground water pollution potential maps may be used to assist planners, managers, and local officials in evaluating the potential for contamination from various sources of pollution. This information can be used to help direct resources and land use activities to appropriate areas, or to assist in protection, monitoring and clean-up efforts.

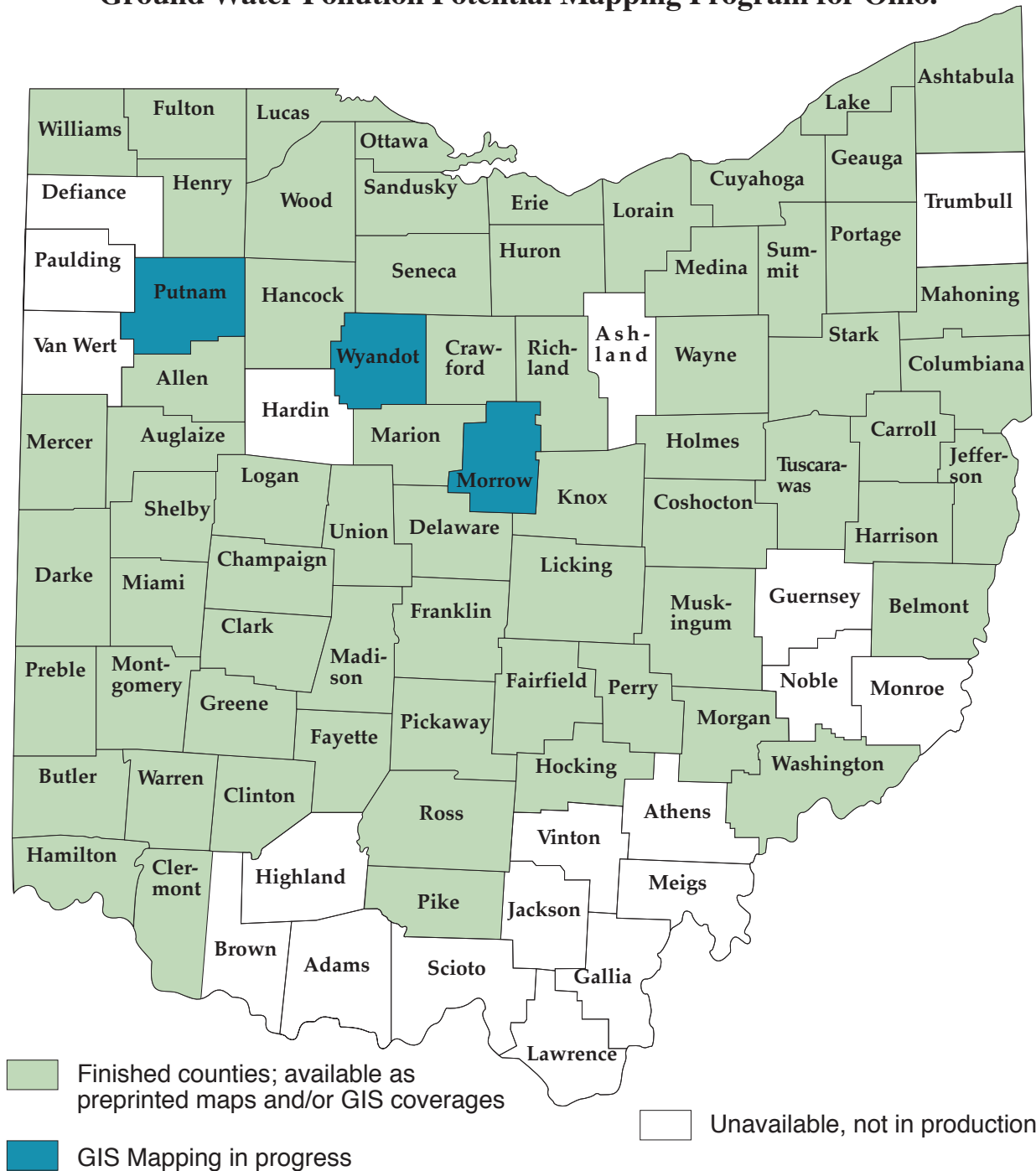


Example of a DRASTIC hydrogeologic setting.

This setting is 7D Buried Valley. Hydrogeologic settings describe areas of common geologic and ground water characteristics that directly affect the vulnerability of an aquifer to contamination from the surface.

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Production Status of the Ground Water Pollution Potential Mapping Program for Ohio.



To order available maps or for more information on mapping contact:

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 Water Resources Program
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 Voice: (614) 265-6740 Fax: (614) 265-6767
 E-mail: water@dnr.state.oh.us
 Website: <http://www.dnr.state.oh.us/water>
 COST:\$10.00/Report (Plus postage and handling)

