

# **DELAWARE SOURCE WATER ASSESSMENT PLAN (SWAP)**

## **PUBLIC SUMMARY** **DELAWARE SOURCE WATER ASSESSMENT PLAN**

In 1996, the U.S. Congress amended the Safe Drinking Water Act (SDWA) and added a new program called the Source Water Assessment and Protection Program (SWAPP). The amendments require each state to identify and evaluate the sources of water within the state that are used by public drinking water systems. The goal of this program is to assess the susceptibility of public water sources to contamination and to promote and facilitate the protection of these public water system sources to complement traditional water treatment activities. To assist in accomplishing this work, Congress has also provided funding support to each state to conduct these assessments.

The Delaware Department of Natural Resources and Environmental Control (DNREC) has the lead role in the development and implementation of the Delaware SWAPP. Its work is closely supported by the Delaware Department of Health and Social Services - Division of Public Health (DPH) and the Water Resources Agency/ University of Delaware. The first major task of this federally mandated program is to develop the State's approach to conducting source water assessments and submit this plan to the USEPA by February 6, 1999. After receiving EPA's approval of the program, Delaware will have about three years to complete the assessment work.

The USEPA provided guidance to the states on the content and process to follow in developing the Source Water Assessment Plan (SWAP). Congress wanted to ensure that the public was involved in this program, therefore, each state was required to assemble a SWAP committee to shape the content of the program. In Delaware, the Citizen and Technical Advisory Committee consisted of representatives from a wide range of groups including private citizens, agricultural organizations, environmental organizations, civic organizations, industry, water suppliers, and other interested parties. The committee met regularly and guided the development of the Delaware SWAP.

The SWAP outlines how source water assessments will be conducted for all of the public water systems in Delaware. These assessments will consist of three major components as required by the SDWA and guidance developed by the U.S. Environmental Protection Agency

delineated using methods established in the State's EPA approved Wellhead Protection Plan (1990). In addition to ground water sources, several of the larger public water systems utilize surface water resources to supply their customers. The delineated source water areas for these systems are the watersheds upstream of the systems' intakes. Those areas of the watersheds closest to these streams will receive more stringent attention.

- Second, the State will develop an inventory of significant existing and potential sources of contaminants located within the source water assessment areas. All known existing and potential point (i.e. leaking underground storage tanks, landfills, etc.) and non-point (i.e. residential lawns, agricultural fields, etc.) contaminant sources will be cataloged and organized in a Geographic Information System (GIS), a computer program that organizes this information and displays it on maps.
- Third, these two components (source water assessment areas and potential contaminant sources) will then be used to determine the susceptibility of each public water supply source to contamination. A susceptibility determination will provide a description of the potential for that source of water to become contaminated using the following methodology:

Initially, a vulnerability determination will be made examining physical features of the well or surface water intake. Vulnerability is defined as "the relative ease with which contaminants, if released into a source water area, could enter a public supply well or surface water intake." For ground water sources, vulnerability involves a review of the physical construction of the well and the depth and type of aquifer from which the well draws water. It is assumed that surface water sources are highly vulnerable because they are open to the air, contaminants can move quickly, and there are less mechanisms for attenuation of contaminants.

Next, the "presence of existing and potential contaminant sources" determined by the contaminant inventory will be combined with the vulnerability determination to give an indication of the susceptibility of the source water for that public water system. Susceptibility is defined as "the potential for a public water system to draw water contaminated by inventoried sources at concentrations of concern." Additionally, chemical-monitoring results for these systems will be reviewed for the presence of any contaminants of concern within the source water. Each source will then be assigned a susceptibility ranking ranging from "least susceptible" to "most susceptible" for the following nine contaminant categories: nutrients, pathogens, petroleum hydrocarbons, pesticides, polychlorinated biphenyls (PCB's), metals, other inorganics, other organics, and turbidity.

When the source water assessments are completed, they will be made available to the

Additional information on the Source Water Assessment and Protection Program and on the Source Water Assessment Plan can be obtained from the DNREC Water Supply Section at 302-739-4793 and the DNREC Web Site at [www.dnrec.state.de.us](http://www.dnrec.state.de.us).