

THE ROLE OF SOURCE WATER ASSESSMENT IN WATER SECURITY

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ABSTRACT

The Maine Drinking Water Program (DWP) is completing a Source Water Assessment Program (SWAP), as required under the 1996 amendments to the Safe Drinking Water Act. In 2003 the Maine Drinking Water Program will complete the first phase of the SWAP, which will provide an inventory of potential risks in the watershed of each surface water supply. The risk inventory process is the necessary first stage of a Source Water Protection program. Public water suppliers should use the results of the assessment to enhance their watershed protection programs. When the SWAP process was initiated, it was recognized that public water supplies needed more than an inventory of risks. There was concern that once the SWAP report was completed the information would lie dormant on a shelf.

Starting in late 2000 the Mitchell Center at the University of Maine conducted a pilot study for SWAP implementation with the Boothbay Harbor Water District (later to become the Boothbay Region Water District) to help understand the problems faced by a small utility with numerous supply issues and to test methods of enhancing source water protection. The Maine DWP and the Maine Water Utilities Association provided both technical and financial assistance for this work. In 2001, the program was expanded to include more utilities that bracketed the range of issues affecting surface water supplies in Maine. For example, a few utilities own or control a large portion of their source watershed and are able to enforce access and use controls. A far greater number of utilities have negligible control over their source watersheds and their source water is designated for multiple uses. This range of control settings presents very different types of risks and associated management objectives. In 2002, the results of the pilot studies were turned into a guidance document to help water utilities use SWAP results to implement active source protection. The guidance document is named Source Water Protection and is available on-line

through the Senator George J. Mitchell Center for Environmental and Watershed Research (<http://www.umaine.edu/WaterResearch/Publications%20To%20Serve/Default.htm>).

Key results of the pilot study are that utilities need to: (1) educate the utility managers, trustees, and townspeople about source water protection, (2) be prepared to take advantage of local situations to enhance source protection, (3) be able to use state or national initiatives, such as security, as tools for source water protection, (4) be willing and able to dedicate staff to source water protection, and (5) take advantage of agency assistance and volunteer citizen groups to support utility goals.

It is crucial to convey to water utilities that sound source water protection is also sound source water security. The SWAP results are a key part of the development of a source security plan because the inventory process identifies areas where the source water is vulnerable to contamination. Historically, water utilities have been concerned with quantity and protection to the extent of the prevention of disease. Terrorism can strike at either or both of these central water supply missions. It is critically important for the water utility to identify the points of vulnerability within their watershed so that security issues can be identified and protection measures implemented.

Source protection is an integral component of water security because it forces utilities to examine physical and chemical threats to their source of supply. A final important ingredient in successful source protection is community participation; therefore an informed and concerned citizenry becomes increasingly important. Public water supplies need to take advantage of the increased interest in national security to institute policies and procedures to protect the source of supply and to monitor source quantity and quality. This requires a commitment to educate the general public and consumers about how they are part of source protection efforts.