

HOMELAND SECURITY AND DRINKING WATER:

An Opportunity for Comprehensive Protection of a Vital Natural Resource



Safe drinking water is a vital resource for human health and is crucial to our everyday life.

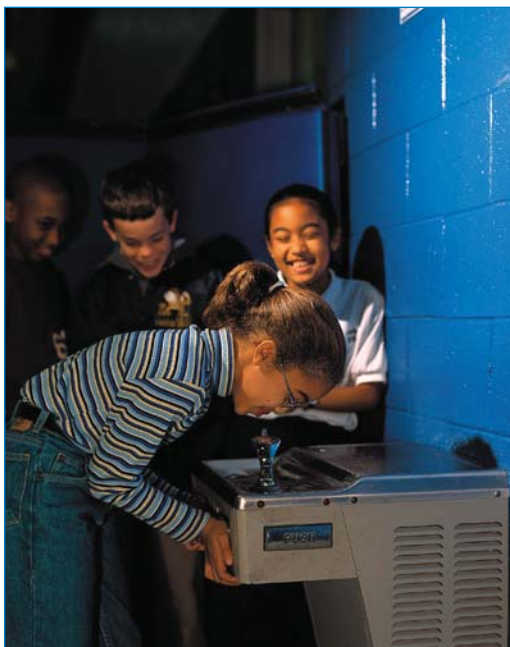
We all depend on clean, healthy water for nourishment, hygiene, and the basic comforts of our existence. Yet, our nation's drinking water has proven vulnerable to contamination from intentional, natural, and accidental acts. These threats are even more apparent after the tragic events of September 11, 2001, which ushered in fundamental changes to our society and system of governance.

As a result, measures are currently underway at all levels of government, the private sector, academia, and non-governmental organizations (NGOs) that are intended both to respond to potential acts of terrorism and to prevent such acts. These measures provide the opportunity to maximize protection of the nation's population, natural resources, and drinking water from both terrorist and conventional threats. The challenge is to devise a system of governance and practice that can respond to homeland security needs and at the same time address related conventional needs, thereby achieving dual purposes in an era of increasingly limited government resources.

To meet this challenge, it is necessary to increase understanding and awareness of how homeland security activities and policies can affect drinking water, both directly and indirectly. This increased understanding must occur at all levels and branches of government, and include those who are involved in the delivery of drinking water to consumers across the nation, the diverse stakeholders who seek to protect this invaluable resource, and the public at large.



Even prior to September 11th, the federal government had taken action to strengthen its ability to prevent and respond to acts of terrorism, including those with the potential to affect drinking water. Activities since that day include legislation, executive orders, and presidential decision directives. Congress



responded immediately to protect drinking water through amendments to the Safe Drinking Water Act, included as part of the Public Health Security and Bioterrorism Preparedness and Response Act, which address vulnerability assessments and emergency response plans. The federal government also has responded through policies, programs, financial assistance and other actions.

Additional authorities to address homeland security and drinking water safety are found in existing federal environmental laws administered by the U.S. Environmental Protection

Agency. These laws may apply to the act of terrorism itself, to site-specific actions taken in response to a terrorist event, to government programs or projects developed as a systemic response to homeland security needs, and to specific biological, chemical or radioactive agents that may become weaponized for terrorist actions.

State and local governments also have joined the efforts to protect homeland security through a variety of measures, including revised laws, new policies, and both new and reinvented programs. At least 43 states have taken some form of legislative action. This legislation has been adopted in areas that include water supply protection, public health measures, emergency preparedness, and appropriation of funds, as well as administrative, enforcement, and criminal mechanisms to ensure homeland security.

In addition, states and municipalities have taken other forms of action to assist water suppliers, local governments, first responders, the health sector, and the general public. These include, for example:

* **Preparation of educational and guidance materials** — The Arizona Department of Environmental Quality has produced a Drinking Water Emergency Operations Plan Checklist that addresses the steps a water system should take to assure continuation of service under a variety of emergency situations, up to and including loss of the water supply. The Checklist covers provisions for alternative water

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sources; notification procedures; disinfection and testing procedures; inventory of spare parts; and emergency response training for operational staff.

* **Creation of task forces** — The State of Ohio Security Task Force convened representatives of first responders and their state organizations, emergency management agencies, and public health agencies, and produced guidelines designed to assist local officials in dealing with threatened biological terrorism incidents. Disposal of infectious wastes or contaminated items, including runoff, was raised as a factor to consider in determining impact on drinking water, as was the impact of the incident on the safety of public drinking water.

* **Engagement of local government** — The Governor of South Dakota sent a letter to the mayors of the state, urging them to assess vulnerabilities and implement measures to improve water supply security, communication with law enforcement, and monitoring of raw water quality. The letter also listed the various ways in which a drinking water system could be disrupted or damaged (e.g., contamination of the raw water source or reservoirs with chemical or biological agents; physical damage to water storage structures, intake structures, treatment plant; loss of power to the treatment plant or computer malfunction; damage to the distribution system; and the pumping or siphoning of chemical or biological agents into the distribution system from a private home or other access point).

* **Utility action** — In the District of Columbia, the Washington Aqueduct has developed multiple methods of controlling access to Aqueduct facilities through controls



on physical access, chemical storage, and operational systems in order to safeguard the water. The Aqueduct has also prepared emergency response plans.



* **Stakeholder communication and coordination** — The Minnesota Department of Health addresses drinking water protection from terrorists and ordinary vandals through coordination with local law enforcement, local emergency managers, personnel training, public notification planning, and through linking with the Health Alert Network, among other measures.

Beyond the efforts of government to ensure drinking water security, and to maximize protection of drinking water from terrorist, natural, and accidental contamination, it is necessary to identify opportunities for constructive interaction among diverse stakeholders. These include, but are not limited to, drinking water utilities, emergency personnel, the legal, technical, and health sectors, academic institutions, NGOs, and the general public. Based on interviews with representatives from these sectors, several issues ripe for collaboration emerged. These include:

- (1) Linking Water Infrastructure with Drinking Water Security;
- (2) Engaging the Public in Drinking Water Security;
- (3) Building Bridges between Public Health and Drinking Water Safety;
- (4) Technological Advances as a Catalyst for Improving Drinking Water Safety; and
- (5) Water Security Lessons from Emergency Planning and Management.

Ultimately, drinking water security demands consideration of all challenges to the water supply, both conventional and terrorist-related. In a period of shrinking budgets, it is imperative that measures that address both kinds of challenges be identified and pursued when appropriate. Investment in the infrastructure of drinking water in this manner will be an investment in the future of the nation's communities.

LAW	FOCUS OF LAW						TYPE OF HOMELAND SECURITY ACTION			
	Natural Resource Protection	Control of Substances and Preventing Their Misuse	Prospective Review of Specific Government Actions or Policies	Remediation and Response to Incidents	Access to Information	Act of Terrorism	Site-Specific Response Action	Systemic Responses to Homeland Security	Weaponized Agents	
Safe Drinking Water Act (SDWA)	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Federal Water Pollution Control Act ("Clean Water Act")	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Toxic Substances Control Act (TSCA)		<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	
National Environmental Policy Act (NEPA)			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			
Resource Conservation and Recovery Act (RCRA)				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Emergency Planning and Community Right-to-Know Act (EPCRA)					<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Freedom of Information Act (FOIA)					<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		

A number of existing federal statutes that were designed to protect our nation's environment and natural resources may also be applied to issues of homeland security. The existing response system is designed to quickly and efficiently minimize dangerous effects of a harmful incident regardless of whether the cause is from an accident, a force of nature, or a terrorist attack. The table above outlines ways in which existing federal laws may be applied to terrorist acts.



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Photographs courtesy of U.S. EPA, Office of Ground Water & Drinking Water.

This brochure encompasses information from ELI's research report *Homeland Security and Drinking Water: An Opportunity for Comprehensive Protection of a Vital Natural Resource*. The full report is available for purchase or download at www.elistore.org. For more information on ELI's Center for Public Health, contact B. Suzi Ruhl at ruhl@eli.org.