

EPA Releases Groundwater Protection Strategy

By Dan B. Kimball

In August, 1984, the U.S. Environmental Protection Agency (EPA) issued a National Groundwater Protection Strategy. The objective of this strategy is to provide governmental agencies with a common reference for the protection of the quality of groundwater for drinking and other uses and also the mitigation of groundwater contamination. This strategy focuses on groundwater quality since water quantity and allocation issues are outside the purview of EPA.

The Groundwater Protection Strategy was developed by EPA for a number of reasons. First, since 1950, reliance on groundwater to supply domestic, agricultural, and industrial uses has increased greatly; second, groundwater has been found to be particularly vulnerable to contamination by man-made chemicals, and the public has recently become very aware of and concerned about the problem of groundwater contamination; third, there is a limited scientific basis upon which to make policy decisions with respect to groundwater protection (e.g., limited data on the sources of groundwater contamination, the movement of contaminants in groundwater, and the technologies for groundwater restoration); and fourth, there is a lack of coordination among responsible agencies in dealing with groundwater contamination problems.

The EPA Groundwater Protection Strategy includes five major components as identified below.

1. The primary responsibility for groundwater protection rests with the states. Therefore, EPA will provide support to States for the development of groundwater protection programs. In FY 1985, the EPA will make available \$7 million for this purpose with a minimum allotment of \$100,000 per state. These funds will support the development of state regulatory programs such as permitting and groundwater classification and the creation of groundwater data systems.
2. EPA will address technical and regulatory concerns associated with groundwater contamination from underground storage tanks since present evidence suggests that leaking storage tanks (particularly gasoline storage tanks) may represent a major, unaddressed source of groundwater contamination.
3. EPA will study the need for further regulation of land disposal facilities, including surface impoundments and landfills.
4. EPA will improve its own institutional capability to protect groundwater (e.g., by the establishment of an EPA Office of Groundwater Protection).
5. EPA will adopt guidelines (expected sometime in 1985) for consistency in its groundwater protection programs based on a policy that groundwater protection should consider the highest beneficial use and that efforts should focus on groundwater contamination that would cause the greatest harm. Therefore, the highest priority will be assigned to groundwaters that are currently used as sources of drinking water or that feed or replenish unique ecosystems. To implement this policy, EPA's guidelines will define protection policies for three classes of groundwater, based on their respective value and vulnerability.

Class I: Special Groundwaters are those that are highly vulnerable to contamination because of the hydrological characteristics of the areas under which they occur and that are also characterized by either of the following two factors:

- a) Irreplaceable, in that no reasonable alternative

source of drinking water is available to substantial populations; or

- b) Ecologically vital, in that the aquifer provides the base flow for a particularly sensitive ecological system that, if polluted, would destroy a unique habitat.

Class II: Current and Potential Sources of Drinking Water and Waters Having Other Beneficial Uses are all other groundwaters that are currently used or are potentially available for drinking water or other beneficial use.

Class III: Groundwater Not Considered Potential Sources of Drinking Water and of Limited Beneficial Use are groundwaters that are heavily saline, with total dissolved solids (TDS) levels over 10,000 milligrams/liter, or are otherwise contaminated beyond levels that allow cleanup using methods reasonably employed in public water system treatment. These groundwaters also must not migrate to Class I or II groundwaters or have a discharge to surface water that could cause degradation. (EPA Groundwater Protection Strategy, pp.5-6)

The groundwater protection guidelines will be used by EPA and the states to make decisions on levels of protection and cleanup under existing regulations (e.g., the siting of land disposal facilities, restrictions on the use of pesticides, and standards for hazardous waste clean-up activities); to guide the development of future regulations; and to establish enforcement priorities.

In addition, these guidelines will be incorporated into related EPA programs, many of which have been delegated to the States (e.g., permitting under the Resource Conservation and Recovery Act (RCRA), the Underground Injection Control Program (UIC), the Toxic Substances Control Act (TSCA), the Clean Water Act (CWA), and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); sewage treatment funding under the Construction Grants Program of the CWA; and cleanup actions under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA or "Superfund")). It should be noted that EPA will provide flexibility to the states in implementing these groundwater protection guidelines; however, state programs must be "no less stringent" than the Federal program.

In regard to the implications of EPA's Groundwater Protection Strategy to the protection and management of groundwater resources in units of the National Park System, it is still too early to determine precisely this strategy's effect. However, some initial observations can be made. First, EPA's Groundwater Protection Strategy focuses protection activities on uncontaminated, high-value groundwaters, which are characteristic of many units of the National Park System. In particular, the strategy's emphasis on protection of Class I groundwaters would appear to offer special protection to important aquifer systems in National Parks (e.g., through the protection of "ecologically vital" aquifers). Similarly, the strategy's requirement to consider groundwater protection in related EPA and state-administered programs would also seem to provide additional protection to groundwaters of park units (e.g., the consideration of improved groundwater protection in EPA's Construction Grants Program for the funding of sewage treatment in small communities adjacent to Mammoth Cave NP where current sewage disposal practices represent a threat to Mammoth Cave's unique groundwater system). In addition,

EPA's commitment to specifically address contamination from underground storage tanks would seem to provide greater protection to groundwater resources at parks from a significant, unaddressed source of groundwater contamination, leaking gasoline storage tanks.

It should be recognized, however, that the ultimate effect of this strategy on groundwaters of the National Park System will be based largely on how the following issues are resolved:

1. How will the Groundwater Protection Strategy actually be implemented by the states (since they have the primary responsibility for protection of the nation's groundwaters)?
2. How will Class I groundwaters be specifically defined and how do Class I groundwater designations relate to groundwaters of National Park units?
3. How will this strategy actually be integrated into other related EPA and state-administered programs? and
4. Although funding for initial program development is currently available, will additional funding be available for implementation and operation of state groundwater programs?

In summary, EPA's Groundwater Protection Strategy represents a clear step forward in establishing a comprehensive strategy to protect the nation's groundwaters. The central thrust of the strategy would appear to provide special protection to important groundwaters of units of the National Park System. How this strategy will actually affect the protection and management of groundwater resources in National Parks will be largely dependent on how EPA's forthcoming guidelines address the groundwater classification process (particularly in regard to the designation of Class I groundwaters) and how this strategy is ultimately implemented by the individual states.

Copies of EPA's Groundwater Protection Strategy may be obtained from EPA's Regional Offices or by contacting NPS' Water Resources Branch in Fort Collins, Colorado (303-221-5421)

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