

# Ground Water Resource Characterization and Monitoring



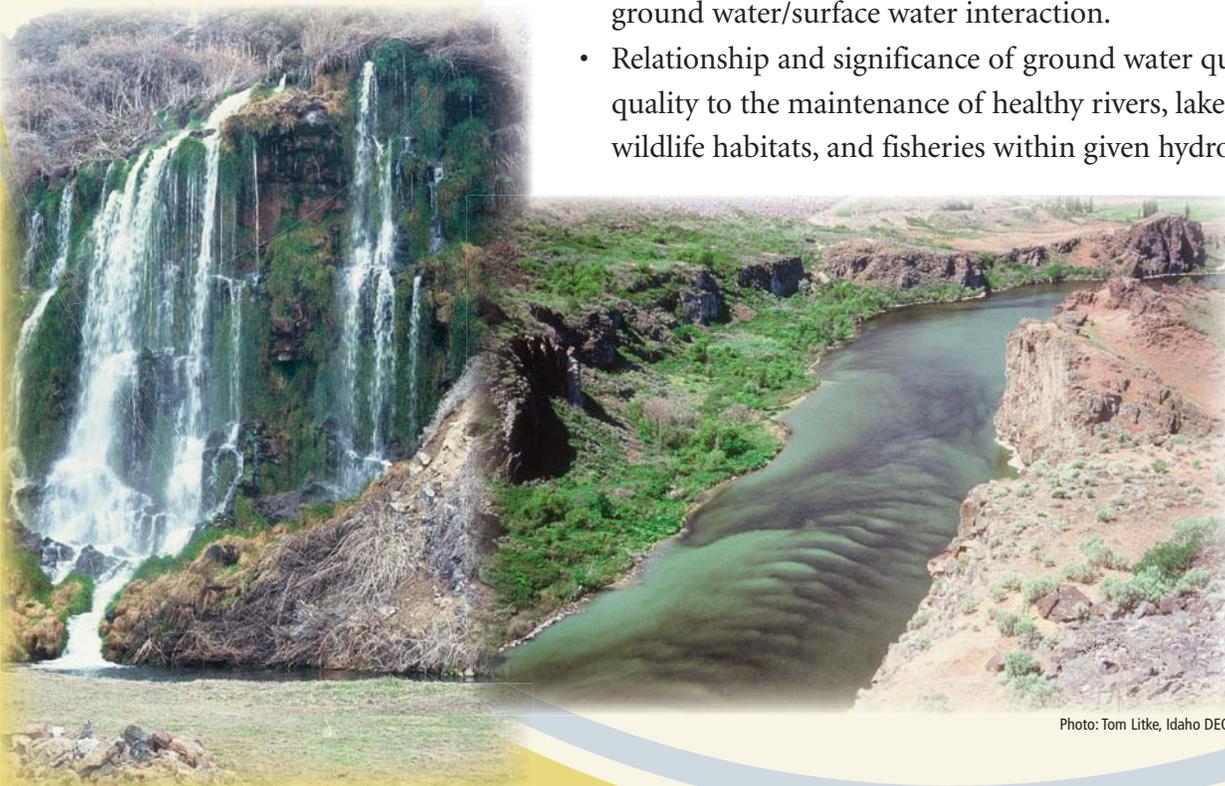
## Key Message

As a nation, efforts to monitor and characterize ground water resources with regard to quantity and quality have been sporadic and, while successful in some local jurisdictions and watersheds, largely inadequate. We need to collect more reliable, consistent, and comprehensive data to sufficiently characterize ground water quality and quantity in order to support critical water resource use, protection, and management decisions. This should be done through a coordinated (federal, state, and local) national data collection and monitoring program that gives decision makers the ability to identify such critical information as:

- Baseline ambient ground water quality.
- Where and how ground water quality is being degraded.
- Location of ground water recharge areas.
- Patterns of ground water withdrawal and recharge within identified watersheds (to sustainably allocate resources and maintain healthy ecosystems).
- Ground water contribution to stream baseflows and areas of ground water/surface water interaction.
- Relationship and significance of ground water quantity and quality to the maintenance of healthy rivers, lakes, streams, wildlife habitats, and fisheries within given hydrogeologic settings.

## why ground water characterization and monitoring matters...

While we have made strides in understanding how ground water/surface water systems work, our ability to characterize how our human activities affect the many natural processes and interactions inherent to specific systems has been constrained. This is primarily due to the lack of long-term sustained support and funding for ground water quality and quantity data collection, analysis, research and development trends, and information dissemination.



*Left: Snake Plain Aquifer discharging ground water to the Snake River in the Thousand Springs area near Twin Falls, Idaho. Right: Eutrophication in the Snake River in the Thousand Springs area.*



## Recommended Actions

In addition to the recommended actions listed here, the Ground Water Protection Council supports the recommendations (and was part of the working group that developed the recommendations) contained in the National Ground Water Association's (NGWA) "Ground Water Level and Quality Monitoring Position Paper" (April 2006).

### To Congress:

- Support the efforts by, and provide the necessary funding to, federal and state geologic surveys and water resource agencies to further hydrogeologic mapping and ground water monitoring networks (e.g., ambient, impacted-area, targeted) needed to understand, manage, and protect the nation's ground water resources.

### To USEPA:

- Ensure that ground water is clearly identified as an integral part of EPA's strategic plan, national monitoring strategy, and other federal agency resource management plans. Specific changes should include:
  - Giving states flexibility in their use of the Clean Water Act §106 and §319 funding for ground water protection.
  - Guidance to states to include ground water as part of state monitoring strategies and monitoring reports, such as Clean Water Act §305(b) reports.

### To USGS:

- Ensure the availability of quality data at scales amenable to watershed-based decision making associated with water planning and allocation, management, and development, especially in watersheds that may cross state boundaries and jurisdictions.
- Continue to actively support, including financially, the Advisory Committee on Water Information Subcommittee on Ground Water.

### To Governors and State Legislatures:

- Provide funds to establish, operate, and maintain ground water quality and quantity monitoring networks that include ambient, targeted, and impacted areas.

*"The primary challenge related to hydrologic forecasting is in forecasting coming variations in water availability (and water quality), not just amounts of water expected based on 'average conditions.' To make advances in forecasting, more comprehensive assessments of the amounts of water stored in the atmosphere, surface, and subsurface, as well as the exchange between these, are needed."*

Science and Technology to Support Fresh Water Availability in the United States. Report of the National Science and Technology Council Committee on Environment and Natural Resources. November 2004

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This summary sheet is taken from the "Resource Characterization and Monitoring" chapter of the Ground Water Protection Council's (GWPC) *Ground Water Report to the Nation: A Call to Action*. Contact GWPC for the full report.