



INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN

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Basin-wide Groundwater Study of Potomac River Basin

As both groundwater and surface water in the Potomac River basin are subjected to increasing demand, their close linkage as part of a single, basin-wide water system becomes more apparent. A greater understanding of how the two interact is critical to the future of the basin's water resources and residents' quality of life.

As the first phase of an effort to assess the water resources conditions in the 14,670 square-mile Potomac River Basin, the Interstate Commission on the Potomac River Basin will begin a study of groundwater availability and usage throughout the basin. The study will identify areas where groundwater shortages have already or are likely to occur in the future. A series of actions, including a protection and management plan for development, use, and conservation of groundwater in the basin and efficiency gains through the conjunctive use of surface and groundwater resources will be identified. The project will employ real-time data collected from an array of existing monitoring wells throughout the Potomac basin.

The ICPRB will work closely with the U.S. Geological Survey and other agencies within the jurisdictions to both use and add value to a range of federal, state, regional, and local efforts focused on groundwater issues. For example, in the northern part of the Shenandoah River watershed, local governments are assessing the instream flow needs of the waterways to plan for needed resource development, assure adequate supply in the future, and ensure that instream flows are adequate to protect other uses.

In the wake of the 1999 and 2002 droughts, many jurisdictions within the Potomac basin are struggling to develop comprehensive, long-term water supply strategies. However, none of these efforts will be successful absent a long-term, basin-wide assessment of groundwater conditions and a study that considers the potential for regional development of new sources of water supply.

This project complements existing ICPRB water supply efforts, including the metropolitan Washington water utilities' evaluations of supply and demand alternatives that may be necessary to meet 2030 demands, and the Maryland Department of the Environment's evaluation of the impact of upstream withdrawals on the Potomac River in the Metropolitan Washington Area. Both of these efforts were

completed by ICPRB in 2001 and provide a foundation for developing this new program. Additionally, ICPRB has conducted the source water assessment plan for the District of Columbia, providing detailed information on potential sources of upstream contamination that need to be considered in a basin groundwater assessment.

With rapid growth occurring in the basin, evaluating the impacts of new groundwater withdrawals is essential to managing water resources in a way that will ensure adequate groundwater recovery and water supply for domestic use, recreation, and industry while protecting aquatic habitat. Federal Safe Drinking Water Act requirements are pushing governments and individuals to rely on groundwater to reduce the threat of contamination. An evaluation of groundwater resources is essential to ensure appropriate monitoring and to provide data needed by local governments to address planning and other concerns.

Early goals of the Potomac-wide project include identification of areas facing potential groundwater depletion and installation of appropriate real-time monitoring devices through expansion of the U. S. Geological Survey (or state) groundwater monitoring networks in each of the basin states. Criteria for determining locations will be coordinated with the jurisdictions and U. S. Geological Survey. Existing real-time monitoring wells are used in several jurisdictions and data is available via the internet to interested water managers and groundwater users.

The Monocacy basin will be utilized as the pilot for the Potomac-wide project, where more in-depth groundwater analyses will be conducted. Specific to the Monocacy basin, pilot studies will include an assessment of ground and surface water availability using streamflow statistics, the development of Monocacy water budget using watershed modeling tools, and a thorough understanding of the impact of drought on the Monocacy basin water budget.

As part of this project, the Interstate Commission on the Potomac River Basin will develop a plan for an expanded study process, coordinating with the basin jurisdictions, water suppliers, and municipalities throughout the basin. This future analysis will define groundwater supply areas that will face shortages in the future decades, identify measures to increase water supply sources and yields, and provide alternative recommendations for ensuring adequate supplies. The development of the planning process will incorporate a series of public participation opportunities and ongoing communication with local and state governments. The ICPRB will seek to obtain and utilize in-kind project support and cost-share funding from water suppliers, municipal governments, and state agencies during future project periods.

Created with an interstate compact by an Act of Congress in 1940, the Interstate Commission on the Potomac River Basin (ICPRB) is composed of commissioners representing the federal government, the states of Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia. The ICPRB mission is to enhance, protect, and conserve the water and associated land resources of the Potomac River basin and its tributaries through regional and interstate cooperation.

ICPRB accomplishes this mission through a variety of actions to conduct, coordinate, and cooperate in studies and programs in the areas of water quality, water supply, living resources, and land resources. The Section for Cooperative Water Supply Operations on the Potomac River (CO-OP), a special section of the Commission, was created as a technical operations center for management and coordination among the regional water utilities to avoid water supply shortages in Metropolitan Washington during droughts.

For additional information contact the Interstate Commission on the Potomac River Basin at 301-984-1908, or visit our website at <http://www.potomacriver.org>