MONITORING (GROUND) WATER RESOURCES AND AVAILABILITY

Planning for Sustainable Future Water Supplies South
of the C&D Canal
Summary and Talking Points

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Recently completed and ongoing programs at the DGS, the U.S. Army Corps of Engineers report on their ground-water model of northern New Castle County, and compilation of the 9th report of the WSCC have documented important water resources data issues facing Delaware. There is a significant lack of key basic data needed to properly plan and manage water resources in a number of areas in the state. The rapidly growing area of southern New Castle and northern Kent Counties is identified as a top priority needing immediate attention

A working group convened on behalf of the WSCC included representatives of the DGS, DNREC, WRA, NCCo, AWC, and TUI. DGS staff evaluated the data issues and developed a general scope of work along with a list of prioritized tasks and associated cost estimates. DGS staff concluded the existing inventory of wells is inadequate to provide the needed data. The working group met to discuss these items and concurred with results of the assessment, the scope of needed work, and the list of tasks. In the meantime, DGS staff began conducting some of the simpler low cost monitoring tasks.

The workgroup agreed that there is a clear and immediate need for increased and improved monitoring of ground and surface water resources, including field installation and instrumentation of test borings and wells, significant improvements to the collection and analysis of water use data, and integrated analysis of the effects of ground-water pumping for water supply and land-based wastewater disposal facilities.

The cost estimates for the needed field monitoring work led the workgroup to endorse a conceptual phased plan in which the work would proceed from instrumentation of shallower aquifers (wells installed in the Columbia, Mount Laurel, Rancocas, and Magothy aquifers - least expensive) to deepest (wells installed in multiple aquifers in the Potomac Formation - most expensive). Cost and time requirements for a program to install instrumentation at eight sites in the shallower aquifers and analyze the data are estimated to be in the range of $750,000 and 1-1/2 to 2 years. Time requirements for a program to install instrumentation in four sites in the deeper aquifers and analyze the data are estimated to be in the range of 2 to 3 years. Contractors have not been able provide even rough costs for this program, so we have not been able to compute good total cost estimates. Based on the cost estimates for the shallow aquifer project, we can assume that the cost will be in excess of $1.5 million.

Cost estimates for drilling and well installation were derived from informal discussions with a local contractor that has previously worked for the DGS. Given recent increases in fuel and material costs, DGS staff members are not certain what the future costs of these services may be.

The WSCC was asked to consider and endorse the proposed conceptual workplan and to develop ideas for funding. Discussion of several funding models followed.