

## PRESIDENT'S MESSAGE

*By Al Tucker, President, 2016*



The future of drinking water has been on my mind for the past few months, but it's been on CEPA's agenda now for more than two decades. Without water, life is not possible, but as we have seen in California, even a moderate lack of water causes havoc in everyday modern life. Other cities and countries facing similar problems are implementing technologies and water saving strategies to face the uncertainties of climate change and population growth.

Many of you are aware that CEPA took up the banner in the 1990's, when arsenic was found in some locations in the coastal aquifer systems and again during the statewide drought of 1998-2002 which brought the subject of water availability to the fore. The extreme conditions then were cause for alarm and literally forced the governor to take action. He appointed the Advisory Committee on the Management and Protection of the State's Water Resources, which issued an interim report in 2004 and the final report in 2008. (This report is often referred to as the "Wolman Report". The CEPA forum of 2008 featured Prof. Gordon Wolman, the primary author, and Dr. Robert Summers, who discussed the findings.)<sup>1</sup>

I have traversed the Southern Maryland counties talking about "The Future of Drinking Water in Maryland," and I have gained several perspectives from people's reactions to the information I present. To share with you some of my observations, there is a lack of awareness of these looming issues, a perception that they are not a problem, and a belief that Maryland has plenty of water now and we can deal with any problems later.

The further we distance ourselves from the last statewide drought, the less we remember about the conflicts of the sort that were the impetus for the governor to initiate the Wolman study. Farmers irrigating their crops ran into disputes with nearby residents who depended on groundwater for domestic needs. Reservoirs were lowered to maintain stream flows to the consternation of boaters and property owners whose property values plummeted. Recreational use of streams was in conflict with communities that needed the streams for local water supplies. The ire of developers was felt in Mount Airy and nearby communities, when all construction was brought to a halt. Middletown, MD attempted to annex the water rights of the nearby state forest, only to be denied by DNR. These and many other problems have receded from our near term memory. In the meantime, the population of Maryland has increased by 14%, climate change is bringing rapid changes to our region, and southern Maryland is experiencing the fastest temperature changes in the entire northeastern US.

Severe droughts occur in Maryland approximately every two decades. The most recent major ones occurred in 1985 and of course in 1998-2002. Recently, research has identified weather precursors in the Pacific that predict droughts in the northeastern US. Since the 1985 drought, the Maryland Legislature has required the Water Supply Program at Maryland Department of Agriculture (MDE) to submit an annual report on the "State of Groundwater in Maryland". Year after year they have documented the issues facing many residents.

The geology of Maryland divides residents into distinct regional groups that make it even more difficult to unite around a common cause. These groups are further subdivided into those who receive their water from public supply and those who have wells. The publicly supplied folks assume that their supplier is watching out for their interests, and, generally, those who supply their own water are unaware of problems. Both communities assume there will be sufficient water in the future.

Approximately 66% of the state depends on surface water, while the remainder depends on the groundwater. Of the remaining 34%, only 17% get their water from groundwater wells. Surface water comes directly from precipitation, snow and rain. Much of this water is captured in reservoirs in the watersheds of our major rivers. West of the piedmont (approximately west of I-95), known as the fractured rock area of Maryland, groundwater users also depend on precipitation to replenish their surficial aquifers. On the far Eastern Shore, the coastal plain aquifers are too deep to access inexpensively; hence, these communities also depend on surface water and precipitation accumulating in the surficial aquifer. Thus, about 90% of Marylanders depend on precipitation to replenish their reservoirs and surficial aquifers.

However, Anne Arundel, Southern Maryland, and near Eastern Shore counties rely primarily on the coastal plain aquifer system and hence seem relatively immune to the effects of drought. Aquifers are basically huge underground storage systems, containing water that is thousands to millions of years old. Water enters these aquifers at the outcrops that come to the surface just east of the piedmont, generally east of I-95. These areas, called recharge areas, are relatively small compared to the volume of the aquifers, and they represent the primary places for water to enter the aquifer system. They, of course, depend on the surficial aquifers to have water available to recharge them.

In general, these large underground reservoirs are sufficient to ride through the average long term drought in Maryland. But unanswered questions remain, namely: "Are the current levels of water withdrawals sustainable?", "Are the aquifers being recharged?" Year after year the aquifers show constant declines of 4-6 ft. per year.

There are other signs that the coastal aquifer system is under stress. Charles County has determined that with expected growth, it will not be able to supply water to its public in 2040. MDE has mandated that Charles County find alternative sources of supply, so they are studying water reuse, desalination, and obtaining additional water from other counties. In other counties, property owners, primarily in Kent County, are finding saltwater intrusion in their wells. In these cases, the aquifer cannot supply all the households making withdrawals. As a consequence, the levels in the aquifers continue to show a steady decline. We should be concerned.

The surficial aquifers in western Maryland are also showing signs of stress. In 2008 Maryland legislators passed a law that allows the Maryland Department of the Environment (MDE) to allocate more groundwater to public drinking water systems in Carroll, Frederick, and Washington Counties than would have been allocated under previous policies. This move was a tacit admission that these counties had insufficient water availability to supply either the current population or the needs for growth. A common issue in all these regions is population growth.

The Wolman report identified future problems that require assessment and planning. However, the apparently sufficient supply of water since 2002 has created an aura of confidence that is unfounded. The weather elements that caused previous droughts still exist and will return. The severity of the next drought cannot be predicted. By 2040 Maryland is expected to add another 888,000 residents. That number translates into approximately an additional 98.6 million gallons of water per day that will be needed. The effects of climate change will only exacerbate the need for more water for agricultural irrigation, which is now the fastest growing water-use in Maryland. In Southern Maryland the question of whether population growth will cause the withdrawal of groundwater to be unsustainable is especially critical.

Woefully, the recommendations of the Wolman report have not been implemented. To quote from its executive summary:

*"Maryland's investment in water resources management, however, has been inadequate. Despite the combined efforts of federal, State and local agencies, information on surface water, groundwater, and ecosystem health is incomplete. Furthermore, the available data have not been completely analyzed or integrated to ensure that current and proposed future water uses do not exceed the available supplies."*

These recommendations need to be implemented!

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<sup>1</sup> See CEPA 2008 forum presentation: <http://cepaonline.org/past%20forums.htm>