



# Chester County Water Resources Authority

C H E S T E R   C O U N T Y   ~   P E N N S Y L V A N I A

## Advancing Water Management to Meet Future Needs

Chester County Water Resources Authority was created in 1961 by the Chester County Board of Commissioners to address the devastating community flooding and farmland erosion prevalent throughout the Brandywine Creek watershed. With support from federal and state partners, the Authority focused its efforts for the first 35 years on planning, design and construction of five regional flood control facilities in central Chester County.

With construction completed in 1994, the Authority owns and operates Barneston, Beaver Creek, Hibernia, and Struble flood control facilities, the Chambers Lake Reservoir, and over 750 acres of flood easements and riparian lands. Marsh Creek Dam and Reservoir were transferred by the Authority to the Commonwealth in 1973.

The Authority is now focused on management and improvement of its facilities to meet future flood protection and water supply needs consistent with the County Commissioners' Strategic Plan. Planning is underway for improvements to meet upgraded dam safety criteria and extend the life of the structures. These improvements and ongoing updates of emergency action plans will help insure dam safety and protection of downstream residents and properties. Planning is underway to upgrade Hibernia Dam for reservoir operations to efficiently and safely meet increasing water supply demands.

The Authority's facilities provide:

- flood control protection for over 12,000 permanent residents, 4,000 daytime student population, and over 2,000 downstream properties valued at \$800 million located in 19 municipalities
- 1.1 billion gallons of flood storage capturing flood waters that drain from 7 municipalities
- 382 million gallon reservoir and average annual water releases of 80 million gallons over 60 days for Coatesville region public water supplies; over 230 mg were released during the severe 2002 drought.

The planning, design and operation of these flood control projects require data and studies to understand the watershed dynamics. The Authority partnered with the U.S. Geological Survey in 1969 to provide sound science to insure the Brandywine projects were designed to reduce flooding and provide adequate instream flows during droughts to meet the water supply needs of both Chester County and New Castle County, DE.

The Chester County/USGS partnership continues to produce stream and groundwater investigations that lead to improved environmental health and public safety for Chester County residents, including:

- discovered 9 uncontrolled hazardous waste disposal sites that were ultimately listed by USEPA as Superfund or RCRA sites
- investigated and prepared guidance to protect private well owners from radon in groundwater
- assessed the magnitude and extent of agricultural pesticides and nutrients in groundwater in rural areas relying on groundwater wells
- automated flood alert triggers for Route 1 bridge closure at Brandywine Creek
- maintain county-wide flood and drought monitoring systems and response action triggers to protect residents, properties and public water supplies.



In 1997, the Authority responded to the request of the Chester County Board of Commissioners to prepare a comprehensive county-wide water resources plan. With a task force of 35 stakeholders, the Authority completed a ground-breaking county-wide integrated water resources plan – the “*Watersheds*” Plan:

- was adopted by the County Commissioners in 2003
- documented improved stormwater management as the highest priority need throughout the County
- was accepted by PA-DCNR as a county-wide Rivers Conservation Plan
- received approval from the state to serve as the plan document for the County-wide Act 167 Plan
- continues to guide land and water decisions to protect and improve the County’s water resources
- provides watershed action plans being used today to guide municipal actions to restore water quality
- provides the basis for the stormwater standards and model ordinance that will be prepared to complete the County-wide Act 167 plan.

Stormwater and watershed management are critical components of flood control. The Authority (in conjunction with other County agencies) has led Chester County’s PA Act 167 stormwater management planning, including:

- supported completion of Chester Creek PA Act 167 Stormwater Management Plan in 2003
- supported completion of Darby-Cobbs Creek and Conestoga River Act 167 plans in 2005
- completed stream investigations and initiated stormwater planning studies for Valley Creek in 2004
- completed the Valley Creek Act 167 Plan, including adoption by the County Commissioners, in 2010 and received approval by the Commonwealth in 2011
- Valley Creek Act 167 Plan is the first PA Act 167 Plan to establish minimum stormwater design standards for state transportation projects as well as for land development and redevelopment
- initiated the County-wide Act 167 Plan, based on *Watersheds*, in 2008; received state approval of Phase I in 2010; and is pursuing alternative funding to complete Phase II.

Since 1996, the Authority has served as co-coordinator of the interstate Christina Basin Clean Water Partnership, working with federal, inter-state, state, and local agencies, municipalities and conservation organizations to address stream impairments and restore water quality. The Christina Basin provides the source of water supply for nearly 60% of the population of both Chester County and New Castle County, DE:

- in 2007, the Authority co-authored the bi-state grant application that awarded the Partnership the first USEPA \$1 million Targeted Watershed Improvement Program Grant for water quality projects
- since 2009, with the Brandywine Valley Association and Chester County Conservation District, are leading watershed-based multi-municipal efforts to reduce pollution from stormwater discharges, in support of the County Commissioners’ Strategic Plan goals.

The Authority has responded to numerous water and land development project proposals that presented potential impacts to the County’s water resources. The Authority provides water data and encourages best management practices to assist project sponsors to reduce impacts of their projects, such as:

- proposed Perrier ground water extraction project
- proposed expansion of Route 202 through Valley Creek watershed
- Applecross Country Club Golf Course and Subdivision
- AES /Sparrows Point, Williams, Dominion, Eastern, and other natural gas pipeline expansion projects
- proposed expansion of PA Turnpike through Valley Creek watershed.

In future decades, water management needs will increase and techniques will continue to evolve. Adaptability, sound science, and community-based solutions will be essential. These are the cornerstones of the Chester County Water Resources Authority – ready today to meet tomorrow’s needs.

**Chester County Water Resources Authority  
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