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Perspective

Politics muddies water

The bad news is there's another drought. But there are also grounds for optimism.

By GERALD J. KAUFFMAN

The political conflicts and complexities of water management were nicely framed when John F. Kennedy said, "Anyone who solves the problems of water deserves not one Nobel Prize but two — one for science and the other for peace."

Delaware and surrounding Mid-Atlantic watersheds are in a rare winter drought of historic proportions. The second half of 2001 was the driest at New Castle County Airport according to rain gauge records kept since 1886. During February daily stream flows along the Brandywine Creek at Wilmington were the lowest on record dating to World War II.

Recently Gov. Minner declared a statewide drought warning asking Delaware residents to voluntarily conserve water. The warning recognized declining water conditions in concert with other states that share watersheds in the Delaware River and Chesapeake Bay basins.

This drought occurs unusually early in the year, when residents are not watering lawns or washing cars. The droughts of 1995 and 1999 deepened during August and September, when droughts are not all that unusual. This record-breaking warm winter added to the dryness by increasing evaporation from streams and soil. It is awfully early for a drought.

Drinking water is Delaware's most precious resource, often taken for granted but expected to flow from taps in safe and voluminous quantities 365 days a year. A drought always heightens the visibility of water supply management and raises questions regarding availability and conservation.

One of the issues regarding reliable water delivery is hydro-politics. Delaware shares its aquifers and streams with two watersheds (the Chesapeake Bay and Delaware River basins), four states (Maryland, New Jersey, New York and Pennsylvania) and more than 20 water purveyors ranging from municipal systems in Wilmington, Dover and Lewes to the investor-owned Artesian Water Co., Tidewater Utilities and United Water Delaware.

Political difficulties surface because the boundaries of the watersheds do not match political and water utility boundaries. This balkanization of political jurisdictions and supply

franchises makes the public policy of water management so complex.

In a water coordinator's dream, Mason and Dixon would have surveyed the westerly boundary of Delaware along the meandering ridge between the Chesapeake and Delaware watersheds instead of the straight north-south line. Water supply franchisees would have been granted based on topographical and aquifer drainage divides. Then the political boundaries of Delaware would have followed the watershed lines and water supply management would have been more efficient.

Inefficient action

An example of inefficiency occurred during the early stages of this drought when the Delaware River Basin Commission declared a drought emergency and the four states had different responses, ranging from an emergency to a warning or no advisory at all. Later, principles of watershed management were employed to ensure comity among state drought declarations.

The Delaware River Basin Commission and Christina Basin Drought Management Committee are two examples of governance organizations that transcend state boundaries to ensure that water is shared across state lines.

Water conflicts in Delaware can surface because watersheds and aquifers do not coincide with utility boundaries and the purveyors have differing economic agendas. Not-for-profit municipal purveyors serve democratically elected councils and deliver water to customers for \$70 to \$180 per year. For-profit investor-owned purveyors serve at the pleasure of a corporate board and deliver water for \$300 annually.

In northern New Castle County it is important that the water purveyors cooperate and put aside their individual profit motives because they are tied together in an interconnected system where companies share each other's water. For instance, two weeks ago Artesian Water Co., a ground-water utility, bought water through interconnections from Wilmington, a stream-fed utility. For this reason, drought warnings are issued to the entire interconnected system, not just one area.

Arguments among a few water purveyors and the government tend to surface during



The Los Angeles Times/NANCY OSHANIAN

What you can do to conserve

Save 25 to 50 gallons of water by taking shorter showers. Use a dishwasher (2 gallons) instead of hand-washing dishes, which takes 20 gallons of water. Wash your car on the lawn or gravel instead of the pavement, to let the water sink into the ground.

Call the University of Delaware Cooperative Extension at 831.2667 and ask for recommendations of drought-tolerant plants for your garden, such as eggplant.

Save more than 300 gallons

by watering the lawn in the morning instead of during the heat of the day. Or save more than 600 gallons over a few hours by not watering your lawn and let the lawn go dormant, when it is supposed to over the summer. A brown lawn during drought is a badge of honor to the ecologically informed citizen.

Rain barrels are a rediscovered farming and conservation technique. Beginning next month, the University of Delaware Institute for Public

Administration will distribute rain barrels to the public through a program funded by the U.S. Environmental Protection Agency and state Department of Natural Resources and Environmental Control.

A barrel stores 55 gallons of water, which can be used to sprinkle the garden and save tap water. In contrast to treated tap water, soft rain water stored in barrels is more forgiving to plants because it is at air temperature and retains beneficial minerals.

The reservoir work cleared 480 acres of land, making this one of the largest public works projects in Delaware history. Today Hoopes Reservoir provides more than two to three months' reserve storage to meet peak demands during the worst drought of record.

The water purveyors on the council have made many improvements since the droughts of 1966 and 1999. United Water Delaware installed the inflatable tidal capture structure along White Clay Creek at Stanton, which stored 700 million gallons during the drought of

1999. Artesian Water Co. drilled several new wells north of the Chesapeake & Delaware Canal.

On the council's A list, Newark has let construction bids to build the 300 million gallon Newark Reservoir and 60 million gallon South Wellfield water treatment plant by 2003. Wilmington has made available 500 million gallons from the top wedge of Hoopes Reservoir for surrounding water purveyors who elect to pay for a stake in the water. Artesian Water Co. has pumped 100 million gallons of water into new aquifer storage and recovery wells and is drilling new wells to provide 120 million gallons during a 60-day drought.

99 percent OK

When all of the A-list projects are built by 2006, northern New Castle County will be 99 percent reliable against drought through 2020, assuming the purveyors continue to cooperate and share water through interconnections.

Back-up projects on the B and C lists include the proposed Bread and Cheese Island reservoir, a pipeline under the C&D Canal, a Philadelphia-to-Delaware pipeline, a desalination facility and Thompson Station reservoir. These projects are available to those who have the will to overcome appreciable environmental, economic and institutional hurdles.

On the demand side, we are asking the public to economize and voluntarily conserve water. In northern New Castle County the normal water demand is 60 million gallons a day and peak summer demand is 90 million gallons a day — a peaking factor almost all due to outdoor water use. Each resident uses about 100 to 150 gallons per day, and only eight gallons are needed for human sustenance. Therefore, the opportunities for water economies are many.

So we plan to cope with the drought of 2002 by counting on reserve supplies developed in recent years, continuing to develop remaining supplies by 2003, and employing good conservation practices in accordance with the governor's drought advisory.

The potential difficulty in the drought ahead lies in the relationship between the governments and water utilities on the Delaware Water Supply Coordination Council. If the actors in the hydro-political world continue to cooperate across political and franchise boundaries, then safe and plentiful drinking water will be delivered to residents and businesses, even during a drought of record.

Maybe those who can bring peace to the Delaware water do deserve a Nobel Prize.

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