



**American Water Works
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Government Affairs Office
1300 Eye Street NW
Suite 701W
Washington, DC 20005-3314
T 202.628.8303
F 202.628.2846

BRINGING TOGETHER AGRICULTURE AND DRINKING WATER UTILITIES FOR
SOURCE WATER PROTECTION

By

G. Tracy Mehan, III

Executive Director, Government Affairs, American Water Works Association

Keynote Address

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Good morning. It is a privilege to kick off the Society's 74th annual conference, the first since passage of the new Farm Bill. I want to thank Clare and all the members of the Society for inviting me to offer the perspective of the American Water Works Association (AWWA), its 50,000 individual members and over 4,000 drinking water utilities across the United States. We share your quest for sustainable agriculture recognizing the importance of food and water to all Americans.

My own personal involvement with agriculture goes back to my days as director of the Missouri Department of Natural Resources and its robust soil and water program, supported by a parks-soils sales tax voted in, many times, by a referendum of the voters of the state.

Subsequently, while working on Great Lakes issues in Michigan, I had the privilege of providing staff support for the Governor who co-chaired the National Forum for Nonpoint Source Pollution convened by the National Geographic Society and The Conservation Fund from 1993-1995.

I also served on the National Resources Council of the National Academies' Committee on the Mississippi and the Clean Water Act appointed in 2005, an opportunity to take a holistic look at the nation's watershed and the impacts from agriculture on our largest rivers and the Gulf of Mexico.

Growing up at the confluence of the Missouri and Mississippi Rivers, having worked in both of those watersheds and the Great Lakes, I have long appreciated the inter-relationship betwixt and between land and water as well as the challenges of maintaining an adequate food supply and water quality. As Assistant Administrator for Water at EPA, I promulgated the very first regulation of CAFOs, concentrated animal feeding operations, and promulgated its first Water Quality Trading Policy.

I am a regular book reviewer for the Environmental Law Institute (ELI). Of the six or seven dozen books I have reviewed over the years, one by UCLA professor Dr. Stanley Trimble, entitled, *Historical Agriculture and Soil Erosion in the Upper Mississippi Valley Hill Country* (2013), still resonates as a chronicle of the devastation of soil erosion on American's agricultural regions and their water quality, but also the incredible recover led by the U.S. Department of Agriculture since the first half of the 20th century.

In the Coon Creek Basin in Wisconsin, floodplain accretion in the 1930s exceeded 12,000 tons per year for every square mile of drainage area, for a vertical accretion rate of 15.24 centimeters per year. The "primeval" rate was about 0.03 centimeter per year. Yet, according to

Dr. Trimble, soil conservation measures did, ultimately, stop the aggradation of the historic floodplain. Indeed, “The Village of Coon Valley was literally save by soil conservation!”, writes Trimble.

So I have come to appreciate the importance of precision farming, nutrient management, forest cover and a wide variety of best management practices deployed at scale across the landscape. Most importantly, I have learned the importance of active engagement with America’s farmers, livestock and woodlot owners to protect our nation’s precious water resources.

More recently, I have also come to understand the impacts of nonpoint source pollution and agricultural runoff, not just on ambient water quality, but also our nation’s drinking water supply and public health. Recent history provides ample evidence.

In August of 2014, an algal bloom in western Lake Erie produced a toxin known as microcystin in the part of the lake from which the city of Toledo draws its drinking water. For three days, the city issued a “do not drink” advisory affecting more than 400,000 people served by its water system.

While there is uncertainty as to what caused this specific algal bloom, there is no uncertainty about one critical aspect of algal blooms in general, namely, their association to areas with high levels of nitrogen and phosphorous in the water. Other areas have experienced similar challenges and cyanobacteria advisories are not uncommon; for example, in 2015 a 600+ mile cyanobacterial bloom on the Ohio River threatened multiple water treatment plants in the vicinity. In Canada, there have been warnings that the prairie lakes could become permanently toxic from blue-green algae contamination.

Although every watershed is unique, and each has its own mix of nutrient sources, Lake Erie and the other Great Lakes have been subject to regulation of point source discharges (i.e., the traditional discrete pipe or conveyance of pollution) under USEPA's Clean Water Act for many decades. Yet, across North America, some of the most prominent sources of nitrogen and phosphorus are nonpoint sources such as diffuse runoff from regulated urban stormwater and unregulated agricultural stormwater. While regulation of urban storm water continues to advance, voluntary partnerships to help address concerns from agricultural lands remains the greatest opportunity for meaningful progress on these private lands.

The Toledo area includes plenty of row crop agriculture that ultimately drains into the Maumee River watershed, tributary to the part of western Lake Erie where the City takes its raw water. These agricultural nonpoint sources, except for large, concentrated animal feeding operations, are not regulated under federal law. Furthermore, they are unlikely to be regulated in the future given the breadth and reach of agricultural operations in the United States.

The recognition of the relationship between agriculture, the land as it were, and water quality is not new. In 2004, just after stepping down as head of EPA's water office, I penned an article of the *Journal of Soil and Water Conservation* (July/August) on "Successful Watershed Management," in which I opined that "Water quality managers must now look to the entire watershed not just isolated sources of pollution-to nonpoint sources not just point sources." Moreover, "water quality managers now find themselves 'playing without the ball' at least with respect to diffuse, nonpoint sources which are mostly within the province of other agencies, local governments or private sector entities or individuals. These managers must coordinate their objectives with those of other players, throughout the watershed."

Thus, my appearance here today to speak on the theme of bringing agriculture and water utilities together in common partnership to protect human health and the environment.

Another concern of ours, high levels of nitrates in drinking water can be dangerous for infants. In 2016, nearly 500 public water systems exceeded allowable levels of nitrate in drinking water at some point during the year, with most of these systems serving fewer than 500 people. Conservation practices put in place today will help to reduce the number of new and recurring issues in the future. Likewise, fecal matter entering streams from livestock can be harmful for public health and the environment alike. With appropriate conservation practices, the introduction of excess nutrients, sediments, chemicals, and animal waste can be substantially reduced.

With a view toward future engagement between drinking water utilities and farmers, it may be helpful to give you a sense as to how utilities approach their responsibility to provide safe, potable water under the Safe Drinking Water Act.

Basically, utilities use a “multiple barrier approach” to provide the public adequate quantities of high-quality water at affordable rates. This approach is comprised of (1) selecting the highest-quality source water possible; (2) protecting the source; (3) treating the water; (4) maintaining quality in the distribution system; (5) monitoring quality at all these stages; and (6) when necessary, if the other barriers fail, implementing emergency response procedures. This is all set out in AWWA’s G300 standard many copies of which I have been distributing around USDA headquarters of late.

Source water protection (SWP) is related to watershed protection but is different in that it entails a tighter focus on sources of potable water and public health rather than only ambient

water quality under the Clean Water Act. It might be helpful to conceive of these two concepts as a kind of Venn diagram with source water protection partially but not entirely overlapping with watershed protection.

“The primary objectives of SWP [Source Water Protection] programs are to maintain, safeguard, and/or improve the quality of a given water source...pollution prevention is often preferable to remediation or treatment of contaminated source water” (Gullick 2017). The benefits derived from this preventative approach include treatment cost savings, increasing public health protection and, in the case of some land-based practices, generating other environmental benefits such as habitat for endangered species, and protecting air quality.

Our G300 standard posits six main elements of developing and implementing a successful SWP program are:

1. Vision
2. Stakeholder involvement
3. Source water characterization
4. Goals
5. An action plan
6. Periodic evaluation and revision of the program.

Almost three years ago AWWA embarked on a sustained effort to forge effective partnerships with the U.S. Department of Agriculture (USDA), Congress and the agricultural community to promote SWP as part of AWWA’s Total Water Solutions initiative. In addition to the advocacy efforts to incorporate source water protection into the Farm Bill and in implementing rules, AWWA has assisted several utilities in preparing applications to the Regional Conservation Partnership Program (RCPP) based on models developed by pioneering utilities in Arkansas, Iowa and New England.

For example, Beaver Water District (BWD) in northwest Arkansas worked with 13 partners to form the West Fork White River Watershed Project garnering more than \$8.5 million for conservation practices from 2016-2021. Using a \$1 million utility contribution, this collaboration has leveraged nearly nine times that amount including a RCPP project from USDA. Expected outcomes include 1 to 2 miles of stream restoration, 2 to 4 miles of riparian zone restoration, enhancement of 150 farm conservation plans, and installation and deployment of 300 conservation practices to help reduce sediment and phosphorus coming into source waters.

Also, the combined utility (water and wastewater) in Cedar Rapids, Iowa has partnered with the Iowa Soybean Association and others in an RCPP project for the Middle Cedar Watershed. The partners are contributing \$2.3 million in technical and financial assistance with the Natural Resources Conservation Service of USDA providing another \$2.1 million to protect the city's water supply. The emphasis here was on deploying conservation practices that will reduce nitrate loads.

Utilities in Kansas, North Carolina and Illinois are getting RCPP projects underway while working with their agricultural partners, pursuant to their successful applications. On the Mills River in North Carolina, \$1.5 million will be spent to restore streambanks (reducing erosion) and provide for safer agricultural mixing, benefitting two downstream drinking water facilities. In Otter Lake (Illinois), \$1.7 million will help to reduce both nutrients and sediment. Last, but certainly not least, in Milford Lake (Kansas), around \$8 million will help to reduce cyanobacterial bloom risk, with an emphasis on nutrient reduction.

In all of these recent RCPP projects, utilities and agricultural interests are working side by side to achieve their mutual goals of land, water and public health protection.

2018 Farm Bill Changes and Pathway Forward

AWWA's major legislative objective was to incorporate SWP as a basic program element in USDA and NRCS through the reauthorized Farm Bill. Besides advocating for funding for the conservation title (Title 2 of the Farm Bill, the portion of the overall law that lays out conservation policy and funding) to be maintained at current levels, or even increased, and that conservation policy gains from the Agricultural Act of 2014 be retained, AWWA advocated for an explicit emphasis on the following areas:

- Protect source water to safeguard potable water and public health
- Expand opportunities for the NRCS to work with water systems to prioritize SWP activities in each state
- Increase benefits for farmers who employ practices that benefit downstream water quality
- Require that at least 10 percent of conservation program funds focus on the protection of drinking water sources. Furthermore, the Secretary of Agriculture should be authorized to work with drinking water utilities and State Technical Committees to identify local priority areas in each state.

On December 12, 2018, Congress passed and on December 20 the President signed a five-year Farm Bill (P.L.115-334) containing virtually all of AWWA's requests to strengthen the protection of drinking water sources, as described in Section 2503. The Agriculture Improvement Act of 2018 will contribute at least an astonishing \$4 billion over 10 years to source water protection, as a floor not a ceiling.

The bill also increased authorized funding for the RCPP to \$300 million along with streamlining the program's administrative process.

The Farm Bill now makes source water protection a specific goal of conservation and a more formal programmatic priority at USDA and NRCS. Indeed, the administrative language to conservation in the bill's title shows its emphasis on source water protection, not just "impaired" waters under the Clean Water Act.

In March 2019, AWWA commented on the development of USDA rules to implement the source water protection provisions, and in April described ways that source water protection could be interwoven into NRCS's 170+ conservation standards, as requested in a public comment period.

The recently announced source water protection component to NRCS's National Water Quality Initiative (NWQI) offers another immediate opportunity for utilities to partner with USDA and agricultural producers.

AWWA is urgently encouraging its state sections and utility members to engage their respective NRCS State Conservationist, in collaboration with a State Technical Committee, to prioritize the use of NRCS funds across numerous other programs in the service of potable water and public health. Utilities interested in source water protection in their watersheds and source areas must develop a long-term relationship with their State Conservationist over time while participating in his or her Technical Committee.

AWWA CEO David LaFrance recently wrote, "When we sit down for dinner each night, there are two essential items on the table: a glass of water and a plate of food. We can't live long without either one. It follows that we need at least two kinds of essential people in the world: people who provide the water and people who provide the food.... You might say water workers and agricultural producers are two sides of the same indispensable coin."

There is much work to do, but the drinking water sector is committed to work with its partners in agriculture to develop solutions for farmers, ranchers, woodlot owners and utility customers in the quest for safe drinking water and sustainable food production. AWWA will engage with the entire range of agricultural partners both in Washington and, more importantly, across the country, as it further promotes source water protection. The Soil and Water Conservation Society is most prominent among our partners for its connection to the practitioners who work with producers and communities, the value of its science and art of conservation, a clear dedication to engagement with its stakeholders and, most recently, its participation in the National Source Water Collaborative!

Let me conclude this Keynote with a call to action. Reach out to your local water utility. Introduce yourself and let them know your shared interest in land and water conservation and the importance for public health, potable water and source water protection. Start a conversation, then a new partnership. There are tremendous opportunities ahead for agriculture and the drinking water sector. This is an opportunity not to be missed!

Thank you for allowing me to share my thoughts with you today. AWWA looks forward to a long and productive collaboration with the Society to protect our food and water supplies across the nation.