ASSOCIATION OF METROPOLITAN WATER AGENCIES
POLICY RESOLUTIONS

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CONTENTS:

Environmental Priorities

The Association of Metropolitan Water Agencies (AMWA) supports the U.S. Environmental Protection Agency (EPA)'s continuing emphasis on establishing environmental priorities based on sound science. Environmental policies and priorities should not be driven by individual issues or contaminants as they receive media or political attention. Scarce public resources must be targeted toward the most pressing environmental and human health-related problems. The EPA's continued commitment to a science-based approach to policymaking is critical to achieving this goal.

AMWA specifically urges the EPA to: (1) target resources at reducing the highest demonstrated risks to human health, (2) develop solutions to environmental problems using an integrated approach that examines all sources of a contaminant and considers effects on all stakeholders, including drinking water systems, (3) emphasize pollution prevention as a program priority, (4) work to improve public understanding of environmental and health risks and the costs for their correction, (5) develop improved analytical methods, (6) improve scientific understanding of environmental health impacts including the health protection of children and other potentially sensitive populations, (7) continue to provide for stakeholder involvement in the development of solutions to environmental problems, (8) consider sustainability of our environment and resources, and (9) utilize a holistic approach to its integrated planning policies by considering drinking water infrastructure investments alongside those of wastewater and stormwater infrastructure.

Rationale:

1. Only by ranking environmental problems scientifically by risk, and considering the costs of correction, is it possible to ensure that resources are appropriately allocated to the greatest public health benefit.

2. Reacting to perceived public health threats without regard to proper risk assessment could lead to a fragmented regulatory approach and the expenditure of federal, state and local resources in areas of negligible return - resources that could be devoted to the greatest public health benefit.

3. EPA's continued emphasis on a more holistic approach to regulation is appropriate. The agency should always consider the interaction of various existing laws, such as the Safe Drinking Water Act (SDWA), the Clean Water Act (CWA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and others, when seeking to reduce contaminant risks and assessing potential regulatory costs.

4. Excluding drinking water from integrated planning discussions could lead to unintended outcomes that disproportionately direct capital investments toward wastewater and stormwater infrastructure – thus leaving communities with fewer resources to address equally important drinking water infrastructure needs.

Pollution Prevention

The Association of Metropolitan Water Agencies (AMWA) supports pollution prevention as a means to ensure that the nation's drinking water supplies are safe and of high quality. AMWA urges the U.S. Environmental Protection Agency (EPA) to emphasize pollution prevention in all programs and reauthorization efforts. Preventing pollutants from entering drinking water supply source water is a complex task involving point and nonpoint sources. It is more effective to control point source pollutants at the discrete conveyance, where they are highly concentrated, than it is to remove them at the consumer's expense after they have entered a water body or supply source. Similarly, it is preferable to manage nonpoint source pollutants through approaches such as enhanced watershed protection. This approach also helps ensure that those who pollute our natural resources are not allowed to pass the cost of correcting the problem onto others.

AMWA supports EPA and U.S. Department of Agriculture (USDA) efforts to work with its State and local partners to prioritize watersheds, to develop watershed based permitting or general permits for reducing nutrient loads by setting realistic load-reduction goals with focus on defined watershed areas that have active local community involvement and combine resources from multiple partners and stakeholders.

AMWA further urges that Congress strengthen pollution prevention programs through the Clean Water Act (CWA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and laws governing farm programs of the USDA. Congress should appropriate sufficient funds for nonpoint source pollution prevention programs, especially farm conservation programs. Such actions as targeting farm conservation efforts to protect drinking water sources and encouraging watershed protection planning will provide a clear pollution prevention focus for local, state, and federal activities.

The source water protection provisions of the Safe Drinking Water Act Amendments of 1996 (SDWA) provide a start in acknowledging the importance of pollution prevention at the federal level.

Rationale:

1. Pollutant prevention is more effective and equitable than removal through drinking water treatment.

2. EPA has the authority through various existing laws including the SDWA, CWA, FIFRA and others to control contaminants that degrade water quality and increase the cost of water treatment. EPA should align the standards setting processes and regulatory requirements of the SDWA and CWA.

3. USDA has authority to control agriculture-related contaminants that degrade water quality and increase the cost of water treatment.

**Comprehensive Environmental Response,
Compensation, and Liability Act (CERCLA or Superfund)**

The Association of Metropolitan Water Agencies (AMWA) supports a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) statute that requires responsible parties to clean up contaminated ground water to assure protection of human health and the environment and attain any Maximum Contaminant Level Goal applicable to a contaminant for which they are responsible. The statute should protect uncontaminated ground water, and make polluters, and not water suppliers or their customers, legally and financially responsible for damages caused by hazardous waste pollution. When a responsible party is no longer in business and has left behind an abandoned contaminated site, the Superfund program (funded either through general appropriations or a reinstated Superfund excise tax) should pay for the cost of the cleanup.

In cases where treatment of contaminated water is technically impracticable, alternatives that ensure a safe, reliable and permanent supply of drinking water are preferable to remedies that involve temporary measures such as home treatment devices and the provision of bottled water. In addition, the statute should explicitly recognize the importance of including drinking water suppliers in Superfund decision-making. The statute should preclude liability against drinking water suppliers for leakage from drinking water system facilities of treated water that meets National Primary Drinking Water Regulations. Further, water systems should not be named as potentially responsible parties (PRPs) when the withdrawal of water for drinking water use may contribute to or accelerate migration of contaminants from a Superfund site.

AMWA supports retention of CERCLA Section 104(a)(3)(C) to ensure drinking water systems are exempt from liability under the law due to deterioration of the system through ordinary uses.

Rationale:

1. Ground water is a finite and precious resource. Contamination of ground water sources further narrows its availability.

2. Consumers have a right to a safe and reliable supply of drinking water.

3. As a matter of economic fairness, the clean-up burden should fall on the party responsible for the pollution.

4. If the responsible parties cannot be identified, cleanups utilizing Superfund should ensure that drinking water needs are met without unduly burdening consumers.

5. Water suppliers should be explicitly included in the process for determining Superfund remedies, given their knowledge of ground water use, community needs, and water quality issues.

6. Water distribution piping and water leaks may inadvertently add negligible levels of contaminants to a Superfund site. Normal withdrawal of water from an aquifer for drinking water use may cause migration of contaminants from a Superfund site.

Endangered Species

The Association of Metropolitan Water Agencies (AMWA) supports the emphasis of the Endangered Species Act of 1973 (ESA) on recovering listed species, preventing the need for listings, and providing flexibility to consider different approaches to protection of endangered or threatened species. But AMWA also supports revising the ESA to minimize social and economic impacts, such as project uncertainty and delays that have historically resulted from meeting or implementing the Act's requirements. The ESA should protect a listed or candidate species while considering environmental, social and economic tradeoffs.

To accomplish these objectives, AMWA recommends that the ESA specifically include:

- Pre-listing agreements and recovery plans that consider multi-species habitat and regional or sub-regional ecosystems of which subject species are a part.
- Scientific peer review of listing decisions and recovery plans to ensure the scientific analysis of information used is fundamentally sound.
- Provision for adequate federal funding for recovery plans and federal participation in pre-listing agreements.
- The evaluation, development, and implementation of other protection alternatives before impacting pre-existing development or resource utilization.
- Broadening recovery teams to include expertise to assist in quantifying and minimizing social and economic impacts.

Rationale:

1. The ESA should promote an ecosystem-wide, multi-species approach to recovery and protection over broader landscapes where possible. Such an approach can help protect watersheds and will provide a greater opportunity to rationalize and address the inevitable competition for water for municipal, agricultural, recreational and environmental uses.

2. Waiting until conditions have deteriorated to the point at which a species is threatened or endangered results in efforts that may require severe restrictions on human activities and intensive and expensive recovery efforts. Pre-listing agreements can emphasize consensus, involve States in the recovery effort, avoid delays from adversarial proceedings, and result in more effective protection of the environment at a lower societal cost.

3. Because of a constantly expanding database of candidate species, listing decisions must, in part, be based on many assumptions about habitat needs and the viability of populations. Therefore, the U.S. Fish and Wildlife and the National Marine Fisheries Services should solicit opinions from scientists with the appropriate expertise to give these decisions the broadest possible acceptance and credibility.

4. On occasion, the ESA focus has been on impeding the renewal of federal licenses and permits that clearly provide positive societal benefits.

Safe Drinking Water Act (P.L. 104-182)

The Association of Metropolitan Water Agencies (AMWA) supports the regulatory approach of the Safe Drinking Water Act Amendments of 1996 (SDWA). The statute takes into account lessons learned from past drinking water laws and focuses on contaminants that actually occur in drinking water at levels of public health concern as understood by the best available science. The law provides a sound scientific basis for regulations and appropriately considers the benefits the public may receive from regulatory efforts against the costs they will be asked to bear to achieve those benefits. AMWA believes EPA must faithfully follow the contaminant regulatory process as established by the 1996 amendments for the establishment of National Primary Drinking Water Regulations (NPDWR).

AMWA strongly encourages Congress to support the 1996 amendments by ensuring that the U.S. Environmental Protection Agency (EPA) receives adequate funding to carry out the statute, particularly for health effects research. AMWA also encourages EPA to exercise the flexibility granted under SDWA to ensure that congressional intent is met and appropriate decisions for the protection of public health are made.

SDWA gives EPA the authority to develop non-regulatory Heath Advisories (HAs) for contaminants that are not subject to a NPDWR. While the statute outlines no criteria or process for the issuance of HAs, EPA has framed HAs as a means to offer "technical guidance to assist Federal, State, and local officials responsible for protecting public health when emergency spills or contamination situations occur."[1] With this in mind, AMWA recommends that EPA develop a process and establish formal criteria for the development of HAs, with a focus on the risks associated with chemicals in close proximity to water supplies and regional and localized contaminants of concern. AMWA also believes that HAs should not become a substitute for the development of NPDWRs, which should remain the cornerstone of the safety of the nation's drinking water. To achieve this, EPA should proactively emphasize to the public that HAs are not regulations.

AMWA encourages EPA to emphasize process transparency and stakeholder outreach efforts that ensure early and effective public participation in the development of regulations and other drinking water initiatives.

Rationale:

1. AMWA strongly supported the 1996 revisions of the SDWA and championed many of the law's initiatives, particularly those related to: health effects research funding, a focus on contaminants that actually occur in drinking water at levels of public health concern, consideration of costs and benefits, and adequate timeframes for compliance.

2. Health effects research is a key component of the law, and only adequate funding by Congress in this area will allow the continued effectiveness of the statute.

[1] "Drinking Water Health Advisory for Manganese," Office of Ground Water and Drinking Water, U.S. Environmental Protection Agency, January 2004. https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf. Accessed September 19, 2017.

3. While the law provides flexibility to EPA to ensure that scarce public resources are appropriately expended to resolve the most pressing problems, EPA must exercise this flexibility to meet the intent of the SDWA.

Ground Water Protection

The Association of Metropolitan Water Agencies (AMWA) urges the protection and preservation of the nation's ground water and supports U.S. Environmental Protection Agency's (EPA) development of a coherent national ground water strategy that acknowledges the need for state and local government primacy in managing our nation's ground water resources.

AMWA opposes providing safe harbor from product liability for oil companies and manufacturers of chemicals such as MTBE. The contamination of drinking water supplies by MTBE and other chemicals is a serious problem. The cost of clean-up necessary to remove chemicals from drinking water sources should be borne by those parties responsible for the contamination and for putting the product into commerce.

All potential threats to ground water should be thoroughly and continuously evaluated. Threats that are becoming better understood, such as those related to domestic oil and natural gas production, hydraulic fracturing and leaking industrial storage tanks, demonstrate the need for constant vigilance. Where potential ground water threats are identified, EPA should aggressively enforce current regulations. Additional, science-based regulations should be developed as necessary to protect ground water, and EPA and the U.S. Department of Agriculture should act aggressively to reduce agricultural pollutants from fertilizers, animal manure, and other sources of nutrients that degrade groundwater supplies.

The availability of ground water for a variety of purposes, but most importantly as a source of safe, high quality drinking water, is essential. AMWA urges Congress to consider development of a comprehensive ground water policy which consolidates EPA's authorities as outlined in the Comprehensive Ground Water Protection Program Guidance and addresses, at a minimum, the following key issues: protection of ground water used for drinking water and ground waters with ecological impacts such as ground waters hydrologically connected to surface waters; the relationship between the quality and quantity of ground water; the sources of contamination; relationship to states' water rights statutes; and federal, state and local responsibilities for the management and protection of ground water.

AMWA also urges Congress to adequately fund the wellhead protection provisions of the Safe Drinking Water Act.

Rationale:

1. Ground water is a critical component of the nation's drinking water supply, accounting for approximately 39 percent of the nation's public water supply withdrawals, and 98 percent of self-supplied domestic water withdrawals.[2]

2. Ground water contamination is a significant problem, especially from improper disposal of hazardous wastes.

[2] United States Geological Service, "Estimated Use of Water in the United States in 2015," https://pubs.usgs.gov/circ/1441/circ1441.pdf, accessed July 31, 2018.

3. Sources of ground water contamination include waste disposal practices, agricultural activities, and natural processes. The types of contaminants include microbes, salts, heavy metals, radionuclides, and complex synthetic organic compounds.

4. Ground water contamination is expensive to detect and monitor. Further, once present, many of the contaminants are very difficult or impossible to remove from aquifers, and are unlikely to be changed or diluted as part of any natural progression.

5. The problem of potential contamination is nationwide, with contamination incidents reported from every state. The specific types of contamination show a regional clustering, however, with industrial waste problems predominating in the Northeast, agriculture-related contamination in heavily agricultural states, and saltwater intrusion in metropolitan coastal areas.

Surface Water Protection

The Association of Metropolitan Water Agencies (AMWA) supports protection, preservation and cleanup of the nation's surface water resources through control of both point and nonpoint source pollution. AMWA supports utilizing the watershed approach as the framework for bringing together all stakeholders to identify problems within a watershed and to solve water quality concerns.

AMWA also urges federal, state and local governments to coordinate program efforts to make better use of available resources (technical, institutional and financial) and to encourage flexible innovative approaches to meeting water quality objectives.

In addition, AMWA encourages greater state and local government recognition of the importance of rivers, streams, lakes and their contributing watersheds as essential sources of drinking water. AMWA urges states to strongly consider drinking water contaminants (particularly those with acute human health effects) when defining impaired waterways within their borders. AMWA further urges the U.S. Environmental Protection Agency (EPA) and state authorities to establish water quality criteria and standards such as total maximum daily loads (TMDLs) for pollutants of concern to drinking water suppliers. AMWA supports the application of TMDLs and the designation of water bodies as drinking water sources where applicable to protect source water.

Finally, the transition from today's form of regulatory control to one based on a watershed management framework will take time and resources. In order for this transition to take place, AMWA encourages all levels of government to commit adequate financial and technical resources for the long-term.

Rationale:

1. Surface water sources provided 74 percent of all water withdrawn for use in the United States in 2015, and 61 percent of water withdrawn for public supply purposes.[3] These water sources are vulnerable to potential chemical and biological contamination.

2. Future improvements in water quality will be dependent on managers taking a broader focus than exists in many areas today. Only by evaluating the entire watershed in collaboration with stakeholders to determine the interaction of all pollution sources (urban, suburban, rural and agricultural point and nonpoint sources) will decision makers and communities be able to develop a management approach that identifies the specific pollution sources that require additional controls so that water quality goals can be achieved.

3. Nonpoint sources of pollution comprise the largest source of water pollution and remain one of the biggest challenges. Federal and state governments need to encourage the agricultural community (including through regulatory requirements where appropriate) to participate in solving pollution problems attributable to agricultural practices.

[3] United States Geological Survey, "Estimated Use of Water in the United States in 2015," https://pubs.usgs.gov/circ/1441/circ1441.pdf, accessed July 5, 2018.

4. Governmental coordination and cooperation are essential because watersheds often cross numerous political boundaries and the scope of these watershed planning efforts can require significant time and resources.

Drinking Water Research

The Association of Metropolitan Water Agencies (AMWA) believes continuing, federally-sponsored, health-based research is necessary to: understand the health risks of waterborne substances; develop improved analytical techniques to more accurately measure the level of contaminants in drinking water; protect drinking water supplies from contamination; identify the most reliable and efficient methods for removing contaminants from drinking water; develop methodologies and technologies to detect, prevent, and respond to acts of terrorism; and detect regional and local differences in source water quality. All research should be performed by qualified, reputable research organizations and should, to the extent possible, be oriented to provide information of direct benefit to water supply utilities and regulators.

AMWA urges Congress to provide the U.S. Environmental Protection Agency (EPA) program funding at levels that will allow essential, thorough health effects research on disinfectants, disinfection byproducts and other drinking water contaminants. Health effects studies require special attention so that a firm, scientific basis exists for regulatory decisions including the risk tradeoffs of disinfection and other treatment practices.

AMWA believes EPA and/or the Department of Homeland Security (DHS) should help fill gaps in homeland security research through a national scientific research and development program. The need for new, sophisticated technologies in water security and cyber terrorism prevention is paramount to help water systems detect and respond to terrorist threats. Water utilities increasingly rely on electronic information systems to control many aspects of water treatment and distribution. It is essential that resources be invested now to protect water systems from physical, contaminant, and cyber threats in the future.

AMWA strongly supports maintaining federal funding for the Water Research Foundation's research activities that address scientific, technical, and management issues of concern to the water and wastewater sector. This federal funding is a valuable compliment to resources provided by public and private water utilities. AMWA supports health effects research but believes that any effort to involve the Foundation in such research should be done only after extremely careful deliberations and, if conducted, should be performed by qualified, recognized health research organizations.

AMWA supports the efforts and funding of the Centers for Disease Control and Prevention (CDC), EPA and other organizations to continue research on the occurrence and significance of waterborne diseases.

Rationale:

1. Very little data exist regarding the health impacts of many substances now being detected in trace levels in both surface and ground water supplies.

2. Health effects research is urgently needed and extremely expensive. The federal role in drinking water research should emphasize the development of scientific health effects data.

3. The EPA Office of Ground Water and Drinking Water and the drinking water research and development program have historically been underfunded, and, therefore unable to develop adequate occurrence, health effects, analytical methods, and Best Available Technology data for regulations. The regulation of disinfectants and disinfection byproducts and any future contaminants demands adequate funding because a large majority of Americans are served by systems using water treatment processes. Adequate funding is essential to study health impacts, and eliminate incorrect decisions with resulting high costs.

4. Research into the most effective means of controlling known contaminants is needed to assure that their removal is accomplished as reliably, efficiently and economically as possible. Required treatment technologies may be very costly, thus imposing a major burden upon water suppliers. Requiring the use of such technologies before they have been thoroughly demonstrated and proven under field operating conditions could result in substantial investment in a poorly suited technology, in the improper application of that technology, or in unintended water quality impacts.

5. Because of the public health and financial implications of drinking water related research, it is essential that it be performed by highly qualified and objective organizations.

6. To maximize the use of limited research budgets as well as the operating budgets of water utilities, research should be oriented toward projects that will produce information of direct benefit to water suppliers and regulators. The research is needed to help utility managers make decisions about how best to allocate resources to provide high quality water and meet federal and state requirements.

7. Water and Wastewater Systems comprise one of the 16 critical infrastructure sectors recognized by DHS. The continuing threat of terrorism demonstrates the need for utilities to focus on finding new ways to improve the security of water system infrastructure and operations.

8. To prevent duplication of effort in research, federal roles should be coordinated through designation of a lead agency.

Water Conservation

The Association of Metropolitan Water Agencies (AMWA) believes that federal, state and local water supply policies should encourage the conservation of the nation's water resources. Individual water utilities should develop and implement their own system-specific conservation programs, which could include participation in programs such as the Environmental Protection Agency's (EPA's) WaterSense, and take appropriate steps to ensure that there are adequate water supplies, even during periods of drought, to meet local needs. Water conservation should be accomplished through activities that result in the efficient use and management of water such as:

- Metering of all water supplied as a basic conservation incentive and to measure the effectiveness of all operations including conservation activities;
- Supporting adoption of national plumbing products efficiency standards;
- Initiating regular water system audits to identify and correct leaks, unauthorized connections, or wasteful uses; and
- Educating and encouraging customers to use water wisely.

There are significant regional differences in water resources, usage requirements, system capacities and demographics. The following measures should be considered locally and, if appropriate, implemented in a manner tailored to regional conditions:

- Incorporation of conservation measures in all planning to meet future water needs;
- Careful consideration of conservation price signals in water rate design (such as the elimination of declining block rates and uniform monthly water rates without a usage component, and the promotion of seasonal rates, surcharges, increasing block rates and other rate structures that encourage wise water use options when appropriate for local circumstances – particularly during periods of water shortages, drought, rising demand, or rising water system costs);
- Efficiency improvements in industrial and agricultural uses of water; and
- Development and employment of reuse projects that meet appropriate public health standards and are cost effective.

State implementation of EPA's water conservation guidance should follow these general principles. Additionally, Congress should commit to codifying and funding EPA's WaterSense program to ensure continued public awareness of water-efficient products.

Rationale:

1. Water is a precious natural resource that should not be wasted. Even relatively minor shortages can disrupt normal living patterns and may undermine a variety of economic activities.

2. Conservation is a key part of water resource management. Conservation practices must assure that present and future municipal, industrial, agricultural, hydroelectric and in-stream needs can be met in an economically and environmentally sound manner.

3. Local, regional, legal, climatic, source, economic and environmental differences must be taken into account as conservation policies are developed at the national, state and local levels. The appropriate mix of conservation measures must be selected based on these differences.

Alternative Water Resource Development

The Association of Metropolitan Water Agencies (AMWA) supports a water utility's ability to develop a diversified portfolio of water resource options that includes alternative water resources such as: desalination; water reuse, including direct and indirect potable reuse; prudent conservation measures; stormwater capture; and innovative programs developed through research. Selecting from options that are most appropriate for the local utility's unique resource options and acceptable to the public will allow more flexibility in operations and a greater ability to manage future risk due to uncertainties in demand, source availability and climatological conditions.

AMWA believes the establishment of reliable funding mechanisms that facilitate and encourage innovation and the development and improvement of alternative water resources is critical. Federal and state governments should partner with the drinking water community to conduct research and develop technologies to produce alternative water resources, reduce water consumption and resolve challenges associated with the use of alternative sources of water. In particular, the federal government should fund research to review the public health implications of indirect and direct potable reuse. Based on these findings, the government should consider ways to facilitate the adoption of sustainable water supply strategies that carry no human health risks beyond current standards, and develop guidance on treatment technologies and systems needed to ensure this level of safety.

Rationale:

1. In many communities, demands from business, agriculture, the environment and a growing population have placed a tremendous strain on existing sources of both groundwater and surface water, jeopardizing its long-term sustainability.

2. In addition to encouraging and promoting water conservation measures and demand management, water utilities have to diversify their portfolio of source options to continually meet the water needs of the communities served, especially during extended periods of low rainfall or water quality challenges that impact traditional water supplies.

3. Having a reliable water supply portfolio is critical to developing and maintaining a vibrant community and local economy, and the socio-economic and environmental impacts of a prolonged drought and compromised quality are severe and far-reaching. There is a need to develop renewable resources that enhance utility sustainability to mitigate the damaging effects of both long-term and cyclical droughts.

4. Direct and indirect potable water reuse technology has the potential to augment traditional water supplies. Approaches to potable water reuse may involve diverting a portion of return flows either into an existing supply reservoir or directly into a water treatment facility. Water utilities must be diligent while implementing these new technologies to ensure continued protection of public health. This new supply may serve both human consumption and emergency response purposes.

5. While some utilities may choose to employ direct and indirect reuse methods and treat water to varying degrees, not all communities may wish to take advantage of water reuse

for potable uses. Communities and local stakeholders should therefore carefully evaluate potable water reuse proposals, and have the flexibility to only select and implement the approaches most suitable for their community. For example, some utilities may choose to reserve water reuse for non-potable purposes – thus saving traditional water supplies for human consumption.

Wetlands Protection

The Association of Metropolitan Water Agencies (AMWA) supports federal, state and local efforts to develop clear, coherent, coordinated goals for the protection of vital wetlands. However, some usage of wetlands for water supply is vital to the well being of the nation. AMWA supports the concept of "no net loss" and appropriate mitigation programs when wetlands must be used to meet water supply and other essential needs and the need to promote the preservation of ground water recharge areas from potential development. One primary goal should be the streamlining of application and approval policies and procedures so that public time and funds are expended efficiently in meeting public water supply needs.

Rationale:

1. Wetlands are an extremely valuable link in ecosystems supporting wildlife, fisheries and other aquatic resources. They provide food, breeding and wintering grounds for waterfowl, sustain nearly one-third of the nation's threatened or endangered species, and provide exceptional biological productivity. Wetlands also provide valuable recreation and outdoor space areas.

2. Wetlands are inseparably related to the supply of safe, high quality drinking water. Wetlands may be central to local and regional hydrologic cycles serving to filter sediment, remove pollutants, recharge aquifers, control flooding and reduce erosion. Water intake structures, reservoirs and other facilities must often, by their nature, be located in or utilize wetland areas. Such use is appropriate with proper mitigation since water supplies provide essential public benefits.

3. Because of the nature and public benefit of many water supply projects, timely action and decisions are necessary so that public funds are not misdirected and public needs can ultimately be met. To ensure appropriate and efficient use of public funds, streamlined laws, regulations, policies and procedures are needed.

Public-Private Partnerships

The Association of Metropolitan Water Agencies (AMWA) strongly believes that the interests of drinking water consumers are well served by effective, efficient and competitive publicly owned water systems dedicated to providing consumers with safe and affordable drinking water.

AMWA believes that publicly owned water systems benefit the community in ways that privately owned water systems do not, such as through interdepartmental coordination opportunities. Moreover, AMWA believes that publicly owned water systems have achieved a competitive position by integrating into their operations the best practices found in both the public and private sectors

Sometimes, alternative project delivery approaches – i.e., project procurement processes outside of the traditional design-bid-build approach most often used by municipal agencies – may provide benefits to utilities. There is a wide array of such options that are on a continuum of public-private-partnership (P3) approaches that allow for risk, responsibility, funding and liability of project delivery to be collectively managed and appropriately shared.

AMWA opposes legislation or regulation that indicates a preference, whether implicit or explicit, in favor of the privatization of publicly owned drinking water agencies (ranging from the sale of assets to contract operations). Privatization decisions must be left to the local decision makers most directly affected by the decision and its long-term consequences including disruptions caused by business failures.

Rationale:

1. Publicly owned and operated water systems benefit drinking water consumers in the following ways:

    - The control, responsibility and accountability for the entire water system is clearly defined.
    - There is an absence of profit motives that could influence key decisions.
    - Publicly owned and operated water utilities have a commitment to make needed capital investment by virtue of ownership, accountability and a long term perspective.

2. Publicly owned and operated water systems have the motivation and the tools to outperform the private sector, including:

    - A keen awareness of the local community's needs and values.
    - A clear mandate to meet those needs and incorporate those values into the mission of water systems.
    - An experienced, knowledgeable and dedicated staff.

3. Publicly owned and operated water systems have demonstrated their ability to compete through:

   - Improved efficiencies resulting from industry-wide benchmarking and other similar activities.
   - Willingness to streamline cumbersome operating rules and procedures (e.g., procurement and personnel).
   - Successful participation in a number of managed competition processes.
   - Creation of effective partnerships between management and employees (in many cases through formal competitiveness agreements and relationships with labor unions).
   - Creative use of private sector resources and outsourcing of various services while preserving public control and accountability.

4. While many utility-wide operating contracts between large metropolitan water systems and private firms have not been successful, some utilities have found that contracting with firms to operate individual components of their systems may be beneficial.

5. Alternative project delivery approaches, including P3s, may provide benefits to utilities, such as shorter capital project implementation timelines, risk transfer and access and incentives for private sector innovations. Publicly owned utilities should consider local needs for project delivery as well as the legal authority in their state for publicly owned utilities to employ a P3 model for capital projects.

Water Supply Policies and Programs: State and Federal Roles

The Association of Metropolitan Water Agencies (AMWA) believes that states should determine water supply policies and administer water supply programs while leveraging, as appropriate, federal laws such as the Safe Drinking Water Act (SDWA) and the National Environmental Policy Act. AMWA believes that delegated implementation of federal programs ("State Primacy") such as is practiced under the SDWA serves both federal and state interests in an effective national drinking water program.

The cost of administering the regulatory requirements of SDWA will continue to grow in the future and increased funding for state program implementation will be needed. AMWA believes that federal funding for the state administration of safe drinking water programs should be increased to cover the full costs of these federally mandated requirements. Any additional related state drinking water quality programs should be funded from the states' general revenue sources. To the extent that states impose fees and other direct charges on regulated water supplies, these fees and charges should be based upon demonstrable costs, equitably applied to all water suppliers, and not used to displace current funding.

Rationale:

1. Local communities have a much closer relationship with states than they do with the federal government. States are therefore in a better position to understand and respond to the needs and priorities of urban water suppliers and the people they serve.

2. Financial resources vary among the states and among localities within a state. Accordingly, each state should be free to set compliance schedules that realistically reflect a water utility's ability to meet the deadlines, consistent with protection of public health.

3. Separating the enactment of regulations from the financial responsibility for their implementation removes incentives for the regulators to weigh the overall societal impacts (benefits and costs) of their requirements against the finite resources available.

4. In many states, water suppliers already pay taxes or other fees to their states' general funds. In some instances, these tax and fee collections already exceed the budgeted cost of state drinking water programs.

5. In many states, general fund commitments to drinking water programs have not only not kept pace with regulatory growth, but have remained static or retreated in the face of that growth.

Tax-Exempt Financing

The Association of Metropolitan Water Agencies (AMWA) urges Congress to place no limitations on the ability of water systems to use tax-exempt bonds to finance water infrastructure projects. This authority to finance essential governmental services on a tax-exempt basis is vital to the ability of metropolitan water agencies to continue to provide high quality, safe and reliable supplies of drinking water at a price that is affordable to ratepayers.

When considering future tax policy changes, Congress must keep in mind that any new tax revenue collected by limiting or eliminating tax-exempt interest earned on municipal bonds would be offset by increased interest costs that would be borne by local water system ratepayers. Limiting or eliminating the exemption would therefore represent a de-facto tax hike on local communities, while encumbering public water agencies' efforts to raise needed capital to address water supply needs.

Rationale:

1. Tax-exempt bonds financed nearly $258 billion worth of water and wastewater infrastructure between 2003 and 2012,[4] representing the most significant source of capital financing to meet the needs of water suppliers.

2. Taxing municipal bond interest would dramatically increase nationwide water and wastewater infrastructure financing costs – effectively imposing a new tax on municipalities and utility ratepayers.

3. Restriction or elimination of tax-exempt interest would seriously erode the ability of AMWA member agencies to meet existing and anticipated needs, including any new drinking water quality standards.

4. Restriction or elimination of such tax-exempt interest would constitute a fundamental departure by the federal government and could threaten the ability of state and local governments to finance basic governmental facilities and services.

5. Restrictive arbitrage provisions unnecessarily increase the costs of project financing.

[4] National Association of Counties, et al. *Protecting Bonds to Save Infrastructure and Jobs,* 2013.

Financing Infrastructure Renewal

The Association of Metropolitan Water Agencies (AMWA) believes that well-functioning water infrastructure is fundamental to protecting public health. Looking to the future, there is a consensus that several hundred billion dollars will be needed to finance drinking water infrastructure upgrades and refurbishments.

AMWA believes that local water supply operations should rely primarily on water rates and other locally generated revenue to support the costs of their operations and infrastructure replacement. However, because local economic conditions vary tremendously around the country and the cost of meeting federal and state regulations impacts systems differently, AMWA supports robust funding for the Drinking Water State Revolving Fund (DWSRF). The government should continue to enforce appropriate conditions for DWSRF eligibility (including, for example, demonstration by applicant utilities that they are investing appropriate levels of their own revenues in capital repair and replacement, such as implementation of rate increases for capital investment), but should also take steps to minimize the paperwork burden this places on communities.

AMWA also supports robust ongoing funding for the Water Infrastructure Finance and Innovation Act (WIFIA) program, which Congress created to supplement the SRFs with low-cost loans for major water infrastructure projects that generally do not receive significant assistance through existing federal water infrastructure programs. In each case, federal water infrastructure funding programs should be targeted to enhance the long-term local sustainability of public water systems as well as to address near-term infrastructure needs.

Access to capital is another critical component to allowing local water providers to make the investments needed to improve and maintain water systems. Water systems currently incur considerable costs associated with financing these local improvement projects. Current economic conditions and changes to financial markets now require significant funds to be set aside to provide security for financing instead of being used for infrastructure improvements. AMWA believes Congress should consider various financing mechanisms in addition to the DWSRF to help communities fund water infrastructure investments.

AMWA supports the development of appropriate asset management plans, a demonstrated commitment to funding capital replacement, the consideration of consolidation and regional partnerships where feasible and appropriate, and the institutionalization of effective utility management practices to increase utility competitiveness for federal infrastructure assistance.

AMWA further supports the refinement of methods used for predicting infrastructure needs to maximize their accuracy in national cost estimates, as well as to characterize the needs of individual agencies. AMWA also supports investments in research to develop technology that best utilizes our limited resources to restore and improve infrastructure.

Rationale:

1. Public water systems should generally rely on rates and other local resources to fund operations, maintenance and infrastructure improvements.

2. There is a consensus that the nation's water systems face billions of dollars' worth of infrastructure investment needs over the coming decades. EPA's most recent Drinking Water Needs Survey predicted that over the next 20 years public drinking water systems face an estimated overall infrastructure investment need of $472.6 billion, including $145.1 billion for systems serving more than 100,000 people.[5] EPA's 2012 Clean Watersheds Needs Survey identified another $271 billion in needs for wastewater and stormwater infrastructure.[6] Similarly, a 2011 report from the American Society of Civil Engineers projected a $143.7 billion gap between water and wastewater infrastructure needs and spending by 2040.[7] In addition to capital improvements, O&M costs also add tens of billions to these projected annual funding shortfalls.

3. Past economic downturns have caused financing costs to increase significantly. While lending rates have since returned to favorable levels, the federal government must maintain programs to help utilities finance critical infrastructure improvements when the private market is unable to do so.

4. Beyond capital needs and O&M costs, federal and state regulations add significantly to the cost of providing safe and affordable drinking water.

5. The Federal government has a history of providing significant funding for the development of drinking water supplies particularly in the west and southwest. The Federal government also created the Drinking Water State Revolving Loan Fund intended to help drinking water systems comply with the Safe Drinking Water Act.

6. Through 2017, DWSRF had provided more than $35.4 billion in funding assistance to communities nationwide through approximately 13,800 individual loans – an average of about $2.5 million per project.[8] Because this level of assistance is not adequate to address major multi-million dollar drinking water needs, robustly funding the Water Infrastructure Finance and Innovation Act (WIFIA) program, along with the DWSRF, would facilitate investment in a broad range of water infrastructure projects.

7. Local, state and federal governments contribute to the cost incurred by drinking water systems and each level of government should participate, in an appropriate way, to pay for those costs.

8. Increased research funding that is well targeted, can have a considerable payback to agencies to reduce the overall infrastructure investment needed in future years.

9. Partnerships can help water systems in communities in need address infrastructure issues through financial, technical, operational and managerial cooperation and assistance.

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[5] https://www.epa.gov/sites/production/files/2018-03/documents/sixth_drinking_water_infrastructure_needs_survey_and_assessment.pdf, Accessed July 5, 2018.

[6] https://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf, Accessed September 8, 2017.

[7] http://www.asce.org/water_and_wastewater_report/, Accessed July 5, 2018.

[8] https://www.epa.gov/drinkingwatersrf/how-drinking-water-state-revolving-fund-works, Accessed July 5, 2018.

Drinking Water Security

The Association of Metropolitan Water Agencies (AMWA) recognizes that water utilities must protect their critical facilities from acts of terrorism, cyber attacks and other hazards. Drinking water utilities' first responsibility is to protect public health by providing potable water and therefore AMWA believes that Congress should proceed with caution in the establishment of new requirements that would prevent local experts from choosing the best and most effective water disinfection options.

AMWA believes the U.S. Environmental Protection Agency (EPA) should continue to be the lead federal agency for security at drinking water and wastewater facilities. Having more than one federal agency with oversight of water security could not only be inefficient, but could also impair the ability of drinking water systems to properly and efficiently treat their water supplies, making simultaneous compliance with multiple standards or guidelines difficult or even impossible. If contradictory or duplicative security measures were recommended by different federal agencies, water systems would face difficulties in assuring compliance and could incur substantial costs with no real improvement in security.

Legislative and regulatory proposals that would require the adoption of alternative disinfection chemicals or "inherently safer technologies" over the objections of local officials fail to recognize the potential for negative risk trade-offs and unacceptable costs. Requirements that propose, directly or indirectly, to displace locally preferred and effective treatment practices could undermine public health.

Some water security programs include the collection of data from water providers. Given the sensitive nature of water security information, AMWA believes that Congress should continue the explicit prohibition on the disclosure of such information under federal, state, and local public information laws. Likewise, federal, state and local agencies must take all internal precautions to prevent the inappropriate disclosure of water system information.

The increasing attractiveness of water systems and other critical infrastructure assets as targets of cyber attacks poses new risks and challenges to water utilities. Water sector officials and organizations should have full access to cyber threat briefings and assistance offered by the Department of Homeland Security and other federal agencies. The federal government should not dictate particular cyber defense mechanisms for water treatment facilities, but should offer information on best practices for protecting industrial control systems and other water utility infrastructure against attack.

Any new federal security requirements should be accompanied by federal funding assistance. Such assistance could be targeted to help utilities update existing vulnerability assessments or implement other physical security or water treatment process enhancements that the utility determines will increase security without compromising public health. Otherwise, new security requirements will amount to unfunded federal mandates on local governments at a time when water treatment facilities are facing hundreds of billions of dollars in other priority infrastructure projects.

Finally, AMWA supports the federal government's grouping of certain governmental and private sector capabilities into an organizational structure known as Emergency Support Functions (ESF),

which provide support, resources, program implementation, and services for victims and communities following domestic incidents. However, the water sector should be placed entirely within its own ESF, as are other critical lifeline sectors like energy, communications and transportation.

Rationale:

1. All metropolitan drinking water agencies have complied with the 2002 Public Health Security and Bioterrorism Preparedness Response Act by developing vulnerability assessments and submitting them to EPA and by preparing emergency response plans. As a result of these measures, water systems have made significant strides in protecting their consumers by protecting their facilities and water quality.

2. Drinking water utilities are essential to maintaining public health, as well as its trust and confidence in a safe and reliable supply of water. Water utilities are on the front line for defending critical water facilities across the United States.

3. Federal mandates requiring utilities to implement "inherently safer technologies" could conflict with drinking water disinfection options determined locally based on source water quality and other feasibility considerations. Switching from one technology to another is a matter of risk-tradeoffs, such as whether to manage risk presented by large chlorine gas supplies or to accept new risks from more frequent deliveries of smaller quantities by truck.

4. The Department of Homeland Security (DHS) is charged with regulating security at the nation's chemical facilities, but does not have similar authority over water and wastewater facilities. Because EPA oversees water utility compliance with required risk management plans under the Clean Air Act and vulnerability assessments under the Safe Drinking Water Act, altering this arrangement could result in confusing multiple-agency requirements being placed on water and wastewater systems.

5. Placing the water sector within its own ESF will promote better communication and coordination with preparedness and response partners at all levels and align the water sector with other critical infrastructure sectors.

Climate Change

The Association of Metropolitan Water Agencies (AMWA) supports strong federal action to research and respond to the impacts of global climate change upon the nation's drinking water supplies. The long-term viability and sustainability of the nation's water supply is integral to a viable national economy and therefore a comprehensive, unified, and coordinated federal research program is essential for developing decision support tools, adaptation and mitigation strategies, and for helping local utility managers access better information on the regional impacts of climate change on drinking water quality and quantity. The Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), and other federal departments and agencies currently conducting climate change research must increase their efforts to develop decision relevant science, including reliable modeling systems and regional to localized projections of freshwater quality, quantity and flow.[9] This information should offer clear guidance on how water utilities may prepare for changing climate conditions over the next several decades. These analyses should also include considerations of how climate change may impact future human migration patterns, and how these changing patterns will affect regional water usage and availability. Similarly, the work of the US Global Change Research Program in issuing a periodic National Climate Assessment in accordance with the 1990 Global Change Research Act plays an important role in summarizing the latest global climate change science that is relevant to the United States.

AMWA urges Congress to take into account the impacts of climate change on water resources when developing legislation to regulate greenhouse gas (GHG) emissions, and to take steps to mitigate the anticipated environmental damage that warming is expected to cause. Specifically, climate change legislation must recognize that water resources and infrastructure in much of the United States are significantly threatened by changing hydrological conditions. Therefore, increased assistance and investment are necessary to help water systems adapt to changing climate conditions and deliver uninterrupted water service to rapidly growing service populations. A percentage of federal revenues derived from any cap-and-trade or carbon tax system should be set aside for research, adaptation, mitigation, and other initiatives that will evaluate and address the impacts of climate change on water resources and public water utilities in the United States.

Congress should carefully evaluate mitigation strategies, such as experimental carbon capture and storage (CCS) technology, which could result in harm to underground sources of drinking water. CCS or similar technologies that place harmful chemicals underground should not be deployed until comprehensive protections for drinking water sources are put in place, including a clear standard outlining who is liable for any unforeseen damages caused by the technology.

AMWA supports its members' efforts to assess their vulnerability to climate and hydrologic change, including the increase in intensity and frequency of extreme events that are attributable to these changes. AMWA supports member efforts to take steps to adapt to these changes in their long-term strategic plans. AMWA also supports members' efforts to evaluate their GHG emissions and take appropriate steps to reduce emissions and increase energy efficiency when

[9] The latest techniques for downscaling general circulation model climate projections has resulted in climate variable outputs with spatial resolutions of better than 1/8° latitude-longitude (~12 km x ~12 km). See: https://gdo-dcp.ucllnl.org/downscaled_cmip_projections/#About

feasible. Likewise, the federal government should offer incentives for carbon-emitting operations, including water utilities, to take proactive steps to reduce their emissions and increase the efficiency of both their plants, and their customers' water usage.

Rationale:

1. Scientific research has found that climate change is impacting the hydrological cycle and threatens drinking water supplies in the United States in a number of ways, including increased evaporation reducing water storage capacity, rising sea levels threatening inland water supplies, changes in seasonal rainfall patterns, reduced mountain snowpack, and increased water contamination as a result of heavier storm intensity and increased turbidity and sedimentation.

2. Some policymakers cite CCS technology as an attractive strategy to reduce greenhouse gas emissions while enabling the continued use of abundant energy sources such as coal. In the past Congress considered several climate change bills that would rely on CCS to achieve mandated carbon dioxide emissions reductions, and in 2010 EPA promulgated a rule to regulate the long-term sequestration of carbon dioxide under the Safe Drinking Water Act's Underground Injection Control program.

3. Water utilities must begin planning now for their expected water supply needs and water availability realities over the next several decades. Climate change threatens to make current forecasting models irrelevant, so new regional projections are needed to help water utilities plan for the next 20 – 50 years.

4. America's water infrastructure is in need of billions of dollars' worth of improvements in the coming decades, even absent the additional stresses that will be imposed by climate change. Increased investment in this infrastructure and the development of alternative water supplies will help utilities adapt to these serious challenges.

Pharmaceuticals in Water

The Association of Metropolitan Water Agencies (AMWA) strongly supports a coordinated, multi-pronged approach to the challenges posed by pharmaceutical compounds found at trace levels in many surface and groundwater sources used for drinking water supply. A clear focus on source control, which targets the approval, use and disposal of pharmaceuticals, is imperative, while recognizing the balance of public health benefits of pharmaceuticals versus the impacts to drinking water.

AMWA believes continued research to gather information on pharmaceuticals in water is critical to informing future actions such as the development of water quality criteria and possible mitigation. Therefore AMWA recommends that:

- Congress increase the U.S. Environmental Protection Agency's (EPA) research budget for pharmaceuticals in water.
- EPA and the United States Geological Survey (USGS) establish a target compound list and prioritize the standardization of analytical methods.
- EPA and other federal agencies focus pharmaceutical research efforts on relative source contribution, human health effects, and effects on aquatic life.
- Water and wastewater research organizations coordinate their activities and focus research on treatment technologies, risk assessment, fate and transport, and effective communication.

Minimizing pharmaceutical loading by pharmaceutical take back programs is one step that will help reduce pharmaceutical concentrations in wastewater streams. However, human and animal excretion resulting from the metabolism of pharmaceuticals and unmetabolized pharmaceuticals are by far the largest contributor and cannot be stopped or easily controlled.[10] When necessary, more must be done to reduce pharmaceutical concentrations in wastewater streams before discharging into the environment. In this regard, AMWA recommends that:

- The Food and Drug Administration (FDA) require environmental assessments (e.g., fate, transport, residuals, by-products, etc.) as part of the drug approval and registration process. These assessments would predict possible resultant concentrations of the pharmaceutical in drinking water supplies and the environment. This would provide valuable information to EPA in the development of national impact and mitigation estimates and if necessary response plans.
- U.S. Department of Agriculture develop guidance for animal feeding and production operations to reduce antibiotics and steroids in runoff, and that EPA monitor the effectiveness of its present National Pollution Discharge Elimination System (NPDES) programs for preventing such pollution and adjust them appropriately.

[10] CBS News. *271M Lbs Of Pharmaceuticals In Our Water.* April 20, 2009. http://www.cbsnews.com/stories/2009/04/20/health/main4955573.shtml, accessed July 5, 2018.

- The federal government develop a national program to provide consumers with an easy and secure method to dispose of unused prescriptions. Specifically, EPA should continue to identify barriers and pursue changes in federal and state regulations that currently impede the success of drug return, disposal, and reuse programs.

AMWA believes that the key to any effort on pharmaceuticals must engage the public in the process. AMWA therefore supports development of public education tools and programs to garner public support and participation in source reduction programs, which includes pharmaceutical take back disposal programs.

Rationale:

1. Pharmaceutical residues found in the water environment are a concern that drinking water utilities take seriously. Health effects research must continue to better understand whether exposure to low concentrations has any human impact. Such information needs to be coupled with relative source contributions so it can be integrated into a risk management framework.

2. Preventing the entry of contaminants into waste streams will reduce their concentration in drinking water sources, which will also serve to reduce contamination from today's pharmaceuticals and those developed in the future. It is challenging and expensive to address pharmaceuticals after they are in drinking water sources and have been diluted to trace levels.

3. More research in the arena of water is needed so public policy makers can make decisions and risk trade-offs based on sound science. The unintended consequences of pharmaceuticals and current water treatment processes (like ozonation) are unknown; we know ozone reduces the concentrations of some pharmaceuticals, but oxidation is not complete, leaving unknown by-products. Research in this area is needed so we can weigh the public health benefits against the economics of more stringent source control measures.

4. In addition to information on the occurrence of pharmaceuticals, the public also needs information related to health relevance in order to draw informed conclusions. This information must be developed by federal agencies and by experts in the field. Water utilities can assist by making the information available to their customers. The public is beginning to recognize that improper use and disposal of pharmaceuticals contributes to the problem, as does human metabolism of drugs taken as properly prescribed. As a result, the public wants to be part of a solution for reducing pharmaceuticals in the water environment. Products and tools need to be developed to tap this reservoir of help and support.