CANADIAN PUBLIC WORKS ASSOCIATION

CPWA

ASSOCIATION CANADIENNE des TRAVAUX PUBLICS

The Canadian Public Works Association (CPWA) was founded to enhance the services of the American Public Works Association (APWA) to the Canadian public works community.

PUBLIC POLICY PRIORITIES 2023-2024

Water Resilience

Public works agencies operate and maintain critical infrastructure services including the delivery of drinking water supplies and the management of wastewater and stormwater. These critical water infrastructure services include the management of stormwater and stormwater outfall sampling programs; the development and implementation of stormwater best management practices (BMPs); potable water flushing/de-chlorination; wastewater lagoon release and related reporting; and responsibility for industrial, commercial, and institutional (ICI) source control, oversampling and inspections. Public works agencies and municipal water providers use chemical substances to treat water for public use and automation and connected technologies are part of many water management strategies, which can be vulnerable to cyberattacks. In addition to addressing such issues as phosphorus, flushables, effluent discharge limits, and water quality, public works agencies are facing the pressure that climate change is putting on water and wastewater systems.

Protect

According to Canada's Core Public Infrastructure Survey: Potable water and stormwater assets, 2016, municipal governments own over three-quarters of every type of potable water asset but less than half reported having an asset management plan. In addition, over one-third of potable water asset owners issued a drinking water advisory in 2016. According to Environment and Climate Change Canada, most boil water advisories are issued because equipment and processes used to treat, store or distribute drinking water break down, require maintenance, or have been affected by environmental conditions. This includes issues such as broken water mains, planned system maintenance, power failures or equipment problems.

Climate change impacts are placing further pressure on water and wastewater systems. According to a 2020 report by the Federation of Canadian Municipalities (FCM) and Insurance Bureau of Canada (IBC), Canada's Future: The Cost of Climate Adaptation at the Local Level, avoiding the worst impacts of climate change at the municipal level will cost an estimated $5.3 billion per year. Drought will result in a loss of potable water amid increased demand, permafrost degradation will lead to the rupture of water lines and storage infrastructure, sea level rise will result in saltwater intrusion, and increases in rainfall and storm surge will lead to the failure of drainage systems. The report also notes that some studies have shown that for every dollar invested in mitigation measures, $6 is saved in future damages.

Recommendations:

- Continue direct funding to local communities through an increase to the federal Canada Community-Building Fund.
- Expand federal funding programs to include operations and maintenance activities.
- Create a permanent federal funding mechanism to support and enhance the cost-effectiveness and sustainability of modern water and wastewater systems in communities of all sizes.
- Include affordability as a consideration in federal programs to ensure that disadvantaged communities are not denied essential water services.
- Support programs that assist provincial, territorial, local, First Nation and critical service entities in increasing resilience to natural hazards and with drought-related activities and expand the technology transfer of drought and water conservation strategies.
- Encourage the development of regional drought preparedness and response plans by water providers in cooperation with federal, provincial, territorial, local, First Nation and critical service entities, and require those plans mitigate the negative economic, social, and environmental impacts caused by a lack of available water.
- Encourage planning and management efforts that include steps to reduce the vulnerability of future water interruptions, such as floods or drought.
- Require more coordinated, cooperative and communicative water management strategies and utilize comprehensive planning, data, and analytical methods, including land use planning, proactive mitigation, resource stewardship, environmental conservation and public education.
- Invest in physical and cybersecurity programs for public works agencies and municipal water providers to ensure enhanced security of water resources and infrastructure to protect public health.

Coordinate

Within the federal government, over 20 departments and agencies have unique responsibilities for fresh water, with Environment and Climate Change Canada often acting as a lead department. Many public works agencies supply drinking water and follow the Guidelines for Canadian Drinking Water Quality established by Health Canada in collaboration with the Federal-Provincial-Territorial Committee on Drinking Water. As well, many public works agencies treat wastewater and are subject to Environment and Climate Change Canada's Wastewater Systems Effluent Regulations, which impose minimum standards for municipal effluent quality nationwide and include requirements for reporting. The effluent quality standards came into effect on January 1, 2015, but wastewater systems not meeting the standards could apply for extensions until 2020, 2030, or 2040, depending on the risk to receiving waters. As owners and operators of critical water infrastructure, public works agencies also look to Public Safety Canada's critical infrastructure and cyber security programs and resources. Further, public works agencies may be eligible for funding for water and wastewater infrastructure projects through the Green stream of Infrastructure Canada's Investing in Canada Plan, the Disaster Mitigation and Adaptation Fund (DMAF), and Public Safety Canada's National Disaster Mitigation Program (NDMP).

Coordination of water policy and regulations at the federal level could improve compliance and result in significant benefits for all orders of government. A coordinating body, such as the proposed Canada Water Agency, could play a cross-functional leadership role, focusing on outcomes and leading the development of policies and guidelines that benefit all Canadians. This federal

Water Resilience (CONTINUED)

coordinator, functioning as a single point-of-contact, could work with provincial and territorial governments to avoid the easing of regulatory guidelines on projects for economic or political reasons.

Another function of a central coordinating body at the federal level, such as the proposed Canada Water Agency, should be to consolidate and share data across departments and all levels of government. Municipal governments in particular need easy access to web-based data and calculations such as upstream tributary flows, amounts to be drawn by other partners (including the U.S.), and events that can disrupt projected amounts. For example, freshwater flow modeling is not being updated as quickly for smaller sources as for larger sources. But communities that rely on smaller sources are often the most challenged in terms of capacity and may be dealing with poorer water quality. Types of data that would be valuable to gather and make centrally available at the national level in a standard format are:

- number of systems and populations served
- number of plants and general technology used
- water volumes treated and distributed
- wastewater volumes collected, treated and released
- details for all water quality tests
- details for effluent testing and what is being released

Recommendations:

- Establish and fund a coordinating body, such as the proposed Canada Water Agency, to act in a cross-functional leadership role, focusing on outcomes and leading the development of water policies and guidelines that benefit all Canadians.

Enhance

Infrastructure assets are critical to everyday lives, and public works professionals face challenges daily in maintaining existing infrastructure. For example, on March 8, 2019, Health Canada, in collaboration with provinces, territories and other federal departments, updated drinking water guidelines to protect Canadians from exposure to lead. The new Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Lead reduced the maximum acceptable concentration of lead in a sample taken from the tap from 0.01 mg/L, set in 1992, to 0.005 mg/L. The challenge for public works agencies is that their responsibility extends from the municipal treatment plant to the system of water mains and service lines in the public right-of-way that deliver drinking water to residents and businesses up to a private property line, but not to the service lines on private property or the plumbing fixtures and pipes inside those properties. Lead service lines are primarily an issue for buildings constructed before 1960, but public works agencies often do not have comprehensive records of where lead pipes are located – or the resources to cover the excavation and construction costs of replacement. Where they do, public works agencies may coordinate and provide incentives to property owners for full replacement of lead service lines, but property owners are not obligated to replace service lines or plumbing fixtures on their property and it is the public works agency or municipal utility that is accountable for the quality of the water tested at the tap. Robust federal funding is required to replace aging infrastructure, maintain newer infrastructure, expand existing capacities, and implement new technologies to provide people and businesses with needed water services now and into the future.

Recommendations:

- Provide robust funding for existing federal programs that support maintenance and development of water and wastewater infrastructure programs.
- Dedicate federal funding to assist public works agencies in addressing the persistence of lead in service lines and plumbing fixtures.
- Fund professional development, skills training, and capacity building initiatives to assist the development and utilization of innovative activities relating to workforce development and career opportunities in the water sector.