Fluid Attitudes

Expert Opinions on the Findings of the 2014 RBC Canadian Water Attitudes Study

RBC
RBC Blue Water Project

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About the RBC Canadian Water Attitudes Study

In 2008, RBC started polling Canadians about their attitudes toward water to see if severe global water issues have any impact on how we use and think about our own water—and to monitor whether these attitudes are changing. The results of the annual RBC Canadian Water Attitudes Study have shown that Canadians—living under the illusion of infinite abundance—are generally clueless, but contented, when it comes to their water.

> "The RBC survey reveals that Canadians only have a very vague idea of where their water comes from and the cost and condition of the infrastructure that makes that water available to them. They just take it for granted," —Bob Sandford

"Not surprisingly, Canadians take water for granted," says Lynn Patterson, director of corporate responsibility at RBC. "Since we started this poll, we haven't seen huge jumps in understanding or awareness about water issues. This can present a real challenge for charities trying to raise funds and for organizations that want to mobilize citizen support to protect water, let alone governments looking to defend infrastructure budgets or programs."

The poll covers a wide range of issues from which RBC chooses one story angle each year for release to the media. In previous years, the RBC Canadian Water Attitudes Study found that Canadians are much quicker to repair an internet outage than a leaky faucet even though one drop per second wastes 25 litres a day of clean, fresh water. Other significant findings in the past include: the majority of Canadians believe their local water infrastructure is in good shape, three-quarters of Canadians use the toilet as a garbage can, and Canadians' water conservation efforts are declining. Canadians have said they consider water to be Canada's most important natural resource, but use more than 329 litres per day.

"The RBC survey reveals that Canadians only have a very vague idea of where their water comes from and the cost and condition of the infrastructure that makes that water available to them. They just take it for granted," says leading water expert Bob Sandford, chair of the Canadian Partnership Initiative of the UN Water for Life Decade.

But those were just the headlines. Over the years, the study has also exposed significant gaps in Canadians' knowledge about water. Since 2008, the full results of the RBC Canadian Water Attitudes Study have been made freely available to NGOs and other interested parties to contribute to a healthy conversation about the value and vulnerability of water in Canada.

Please visit **rbc.com/bluewater** for an archive of the RBC Canadian Water Attitude Study results since 2008.

The Story in 2014

The focus for the seventh annual RBC Canadian Water Attitudes Study was extreme weather and flooding, inspired by the 2013 record floods in Southern Alberta and Toronto. While heavy rain and snowfall dominated news in the last year, the 2014 study revealed some troubling findings.

Three-quarters of Canadians (74 per cent) agreed that climate change will cause extreme weather events to happen more frequently, but only 23 per cent were concerned about extreme weather causing droughts or flooding. Just nine per cent of Canadians polled have taken precautionary measures to protect themselves and their homes from the effects of extreme weather events.

"I was still astonished to see that, despite awareness, individuals would not necessarily take measures to limit the impacts of extreme weather events by improving or restoring their water management systems and tools at home," says Jean-Patrick Toussaint, the science project manager at the David Suzuki Foundation. "This seems counterintuitive, especially after several years of raising awareness about the issue."

Canadians also seem unaware of where their water comes from, where it goes, and the importance of investing in water infrastructure. These lax attitudes toward water could have significant implications for urban water systems.

"Canadians have no idea the challenges that cities and towns face in establishing, maintaining, and replacing vital water and wastewater treatment and stormwater systems," Sandford says. "The public isn't going to support the kinds of costly reforms that are necessary to prepare our towns and cities for the storms that are coming unless there's a clear understanding of why those reforms are needed."

These findings may become an invaluable resource for municipalities, businesses, and organizations looking to enact change in water policy by focusing on the areas of interest indicated by Canadians and attempting to fill in the very evident gaps in their knowledge.

Number of Canadians Polled:

2,074 between January 24 and February 12, 2014

Other Trends for 2014

The findings of the 2014 RBC Canadian Water Attitudes Study indicate that infrastructure and water issues in general tend to be low priorities for Canadians, who place higher value on health care and hospitals. This is surprising since nearly 11 million Canadians were affected by flooding, either personally or through someone they know. Despite the increased awareness and experience with flooding, the Canadian public felt a general lack of urgency over investing in stormwater management. This may be exacerbated by the fact that the findings show Canadians as being only slightly convinced of the severity of climate change.

"I don't think many people are really thinking we should take major action because they haven't seen, or they don't understand, the science that indicates that these trends are persistent and are likely to grow," Bob Sandford says.

While more than two in five municipal water users are unaware of the condition of water supply, sewage, and stormwater management systems servicing their homes, the study also found that Canadians are exhibiting increasing anxiety about water issues and stormwater management. However, the 2014 findings show that this anxiety does not necessarily translate into much, if any, tangible action.

"You can't kill these problems off. These problems aren't going away."

—Bob Sandford on extreme weather and climate change

Water Experts Weigh In

RBC surveyed 134 water experts:

77 per cent believe the state of stormwater management systems is a serious issue. Only 21 per cent of the general public believes that major investments in stormwater management are necessary

44 per cent say emergency preparedness will become much more serious in 10 years

43 per cent say the state of stormwater management systems in urban communities will become much more serious in 10 years

Top water challenges according to experts:

1. Protecting drinking water sources
2. Stormwater management systems
3. Deteriorating sewage infrastructure

Top water challenges according to general public:

1. Protecting drinking water sources
2. Increasing consumption of water supplies
3. Water pricing to recover infrastructure costs

Extreme Weather and Flooding

The estimated total damage from the 2013 southern and central Alberta floods exceeded $5 billion. In terms of insurable damages, it was the costliest disaster in Canadian history at $1.7 billion.

In 2013, a super flood in Alberta washed across one-quarter of the province and flowed through the heart of Calgary, leading to the evacuation of 100,000 Albertans from their homes. A few weeks later, two storms struck Toronto, with more rain falling in two hours than the city usually sees during the entire month of July. Millions of Canadians were affected, and yet, only one per cent of Canadians polled viewed stormwater management as a priority for funding. Just 19 per cent said major action was needed now to prepare for major floods.

"This past year has had some of the most traumatic storm events in Canada. We've seen some pretty dramatic, very localized stormwater impacts," says Carl Yates, general manager at Halifax Water. "But people are still focused on funding for hospitals and drinking water, even though overall, drinking water's in good shape post-Walkerton. More work really needs to be done on sewage treatment and stormwater."

Yates adds that the "particularly complex" nature of stormwater management makes it difficult for people to understand and manage. While people know that water and sewage need pipe systems, stormwater goes beyond piping.

"Stormwater management is such a complex and multi-jurisdictional service," Yates says. "There's no real ownership in one level of government or one agency. It's hard to pin down because stormwater knows no boundaries. It goes where it wishes."

Extreme Weather and Flooding

More Affected, Fewer Protected

In total, nearly 11 million Canadians were affected by floods in 2013—seven million knew someone who was affected and 3.5 million Canadians were personally affected. While only nine per cent of Canadians had taken precautionary measures to protect themselves, the 2014 RBC Canadian Water Attitudes Study found that Canadians affected by the flood were more than five times as likely to protect themselves from future floods. However, flood protection is limited by a clear uncertainty and lack of confidence that looms over Canadians' attitudes about their insurance coverage: one-third of Canadians are not confident they hold adequate insurance coverage and 58 per cent do not feel prepared to pay any additional costs from flooding that are not covered by insurance.

The Cost of Doing Nothing

For many Canadians, water infrastructure is out of sight and out of mind. This makes it difficult for them to understand the importance of investing in underground infrastructure.

"People are beginning to see and understand with their own eyes what these extreme weather changes are and what they mean," Bob Sandford says. "But our infrastructure is not designed for such events. Stormwater management and precautionary measures are critical for protection against flooding."

"I think it's fair to say that we have a pretty good idea of what the cost of doing nothing is. And that cost is mounting."

One obstacle to planning for extreme weather events is that floodplain mapping is outdated. As a result of climate change and watershed development, flow paths and inundation have become harder to predict as storms become more severe.

Fewer than
2 in 5
Canadians feel
prepared for flooding

Canadians perceive floods to be **occurring more often in Canada** compared to **10 years ago**

Extreme Weather and Flooding

69% of Canadians agree that **climate change** is causing more **extreme weather**

One third The number of Canadians who are **not confident** they hold **adequate insurance coverage** to protect them in the event of flooding

74% of Canadians agree that **climate change** will cause **extreme weather** events to **happen more frequently**

23% of Canadians say they are **concerned** about extreme weather causing **droughts or flooding**

21% or **1 in 5** Canadians say that they **live in an area vulnerable to flooding**

58% **do not feel prepared** to pay any **additional costs** from flooding that are **not covered by insurance**

Extreme Weather and Flooding

Seven million

The number of Canadians who **know someone** who was **personally affected by flooding** in 2013

65% Calgarians

40% Torontonians

Canadians are **not entirely convinced** that **climate change** will result in more **extreme weather events**

3.5 million

The number of Canadians who say they have **been personally affected by flooding** in the past year

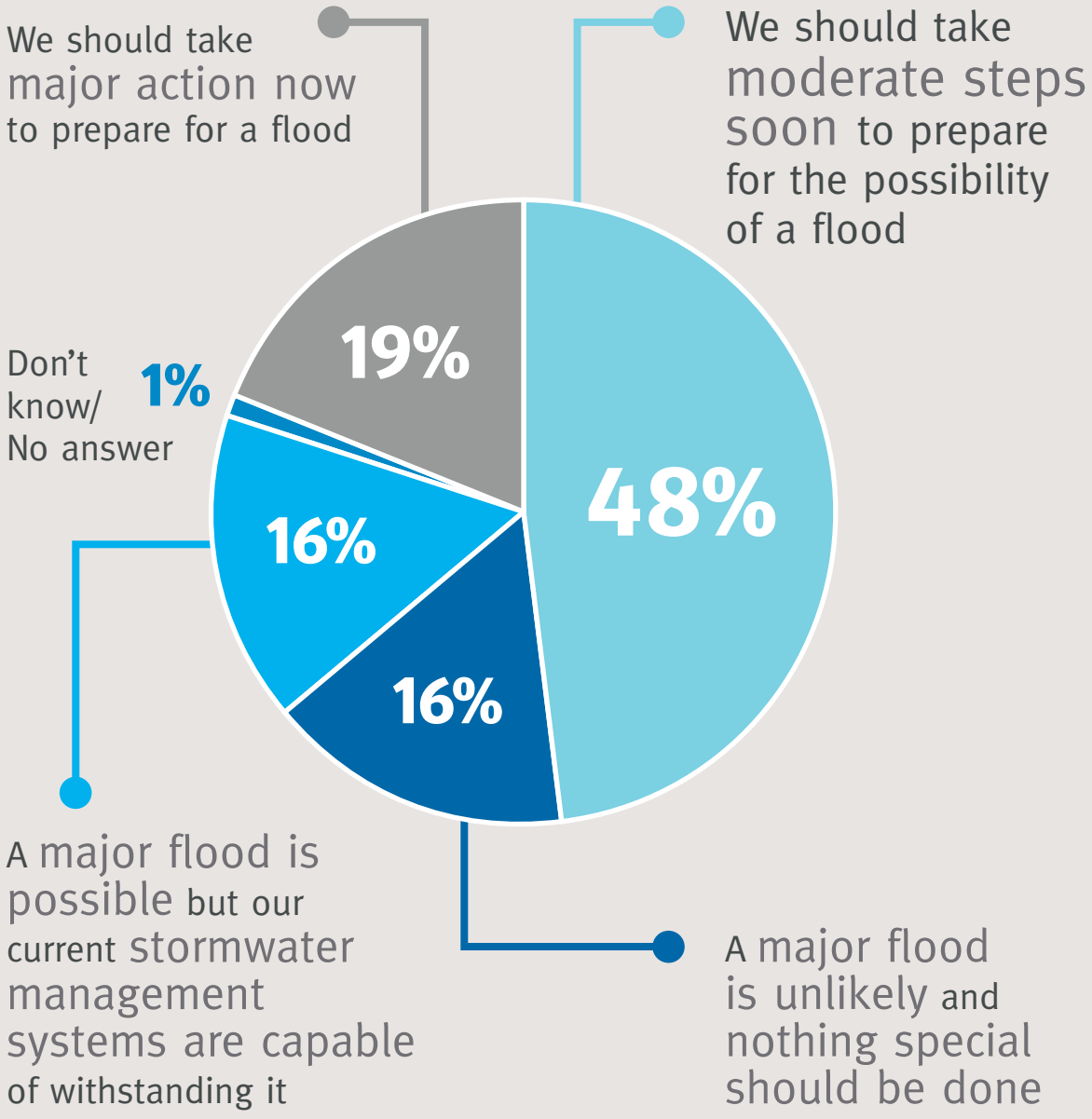
39% of Canadians only **"somewhat agree"** that climate change has led to more extreme weather, the most common response to the question

Only 9%

of Canadians have taken **precautionary measures** to **protect themselves and their homes** from the effects of extreme weather events

Extreme Weather and Flooding

Two-thirds of Canadians feel that **action is needed** to better prepare municipal stormwater management systems for flooding



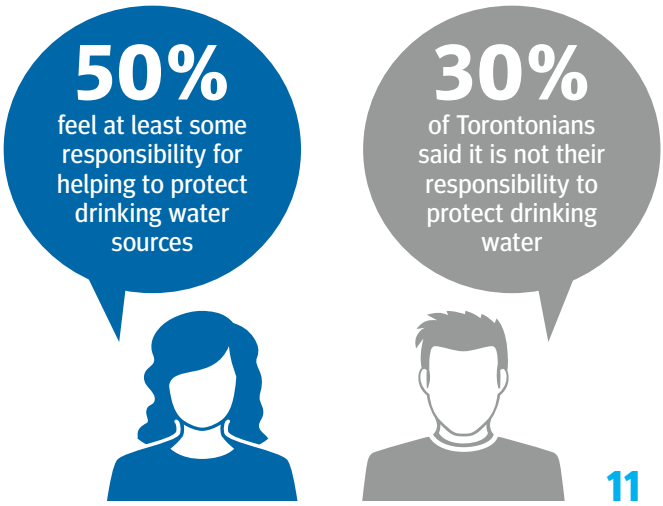
The Unaware Water Consumer

More than 50 per cent of the water applied to lawns and gardens is lost due to evaporation or runoff because of overwatering.

Ask any Canadian where their water comes from, and you'll probably hear the answers, "from a tap" or "a body of water somewhere." Canadians, by and large, are woefully unaware of the systems in place that move their water from source to tap and back again. RBC found that the majority of Canadians rely on the municipal water supply, but more than two in five were unsure of how this system operates.

"I'm surprised Canadians still think drinking water is the greatest water-related problem they think they're going to have in 10 years versus stormwater and wastewater," says Carl Yates. "Those of us in the industry would probably flip those around."

Yates says Canadians likely care more about drinking water because they "view it as a service they receive and want clean," whereas the water going down the toilet and shower drain is less of a concern—another example of "out of sight, out of mind." To add to this disconnect, 26 per cent of Ontarians said it is not their responsibility to protect drinking water. This is evidence that some Canadians are oblivious to how their actions on land ultimately affect source water and how this affects their pocketbook: property taxes are partially used to clean source water. In 2007, $807 million was spent on the operation and maintenance costs of drinking water plants in Canada. The energy costs alone were $199 million.



The Unaware Water Consumer

"Regulate, Educate, Reward"

Of the experts interviewed for this paper, all stressed the importance of educating the public about its water supply and the value of water. Communities may decide to start awareness and education campaigns, which can include holding tours of local watersheds or water treatment facilities.

"It just brings home for people that there is a system here and a whole group of people and money and expertise that go into ensuring the safety and security of their water supply," says Tanja McQueen, CEO of British Columbia Water and Waste Association. "It's a tremendously powerful way to get people to understand that it doesn't just magically turn on when you turn the tap."

Anthony Westenberg, manager of public relations at Evergreen Brick Works, says there are three groups of Canadian water users: those who don't know and don't care; those who know a little bit and want to do something, but don't know how; and those who know something should be done, want to do something, and then take action. He says the first two groups should be regulated, educated, and rewarded in order to create efficient and smart water users.

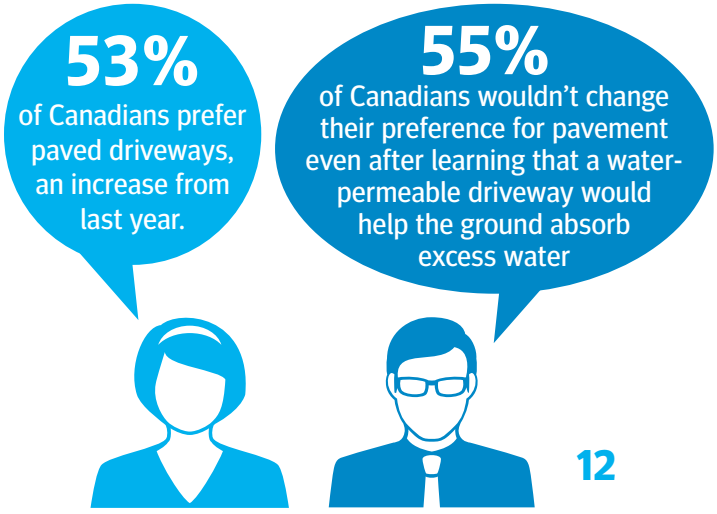
Take permeable pavement for example. "You make it a regulation to have permeable pavement," says Westenberg. "Then you explain why these surfaces are so important, and then you reward them by giving them a break on their taxes. He believes Canadians may then learn that being more aware of water can have positive impacts on their wallets, as well as their built and natural environments.

"When did we fall in love with paved driveways? Do Canadians think that once you get the water off your property and it's on the municipal road that it's someone else's problem?" —Anthony Westenberg

Peeling Back the Pavement

What happens when educational programs and awareness are not enough? One startling finding from this year's study is that Canadians do not seem to be motivated to change their behaviour based on a concern for the environment. Sixty-five per cent of residents in Halifax, Nova Scotia—where stormwater charges based on the amount of paved surface on the property have recently been implemented—said they would not change their preference even with this knowledge. "I believe incentives are the best approach to change behaviour, especially through price signals," Carl Yates says. "In other words," he says, "if you pave over paradise with a parking lot, you pay more."

With this as the case, more municipalities may turn to tax incentives to enforce behavioural changes.



Stormwater Case Studies

Halifax, Nova Scotia

Halifax will implement a credit system in the future whereby a customer will pay less if they demonstrate reduced impact to the city's stormwater system—the most important being delayed runoff as a result of landscape or on-site storage.

Kitchener, Ontario

In Kitchener, Ontario, the stormwater utility levies a charge on all properties based on the amount of impervious area. "Naturally, if they reduce impervious surfaces, they pay less," says Nick Gollan, manager of Kitchener's stormwater utility. "We also have a credit program that can reduce the stormwater rate by up to 45 per cent if property owners implement approved best management practices."

To communicate the benefits of depaving to its taxpayers, the City of Kitchener sent out inserts in utility bills and targeted letters to property owners with stormwater infrastructure on site. It also ran newspaper ads and used social media and other promotional materials like banners and pamphlets.

Victoria, British Columbia

Starting in 2015, the City of Victoria, British Columbia will implement its own stormwater utility, which it originally planned to begin in 2014. There will be a user-pay system for stormwater charges and incentives for properties that manage rainwater sustainably. The city decided to push the date by a year to give property owners more time to plan for the change in how stormwater services are billed and to learn more about cisterns, rain barrels, rain gardens, green roofs, and other similar rainwater management methods. The city engaged heavily with the community to collect feedback on the change to a stormwater utility model and the proposed rainwater management credit program.

To increase awareness and boost public support for the program, the City of Victoria received feedback on how to make the credit program more flexible and to simplify the credit application process. Property owners also requested that case studies be developed to better understand the benefits and challenges of managing rainwater with a variety of property types.

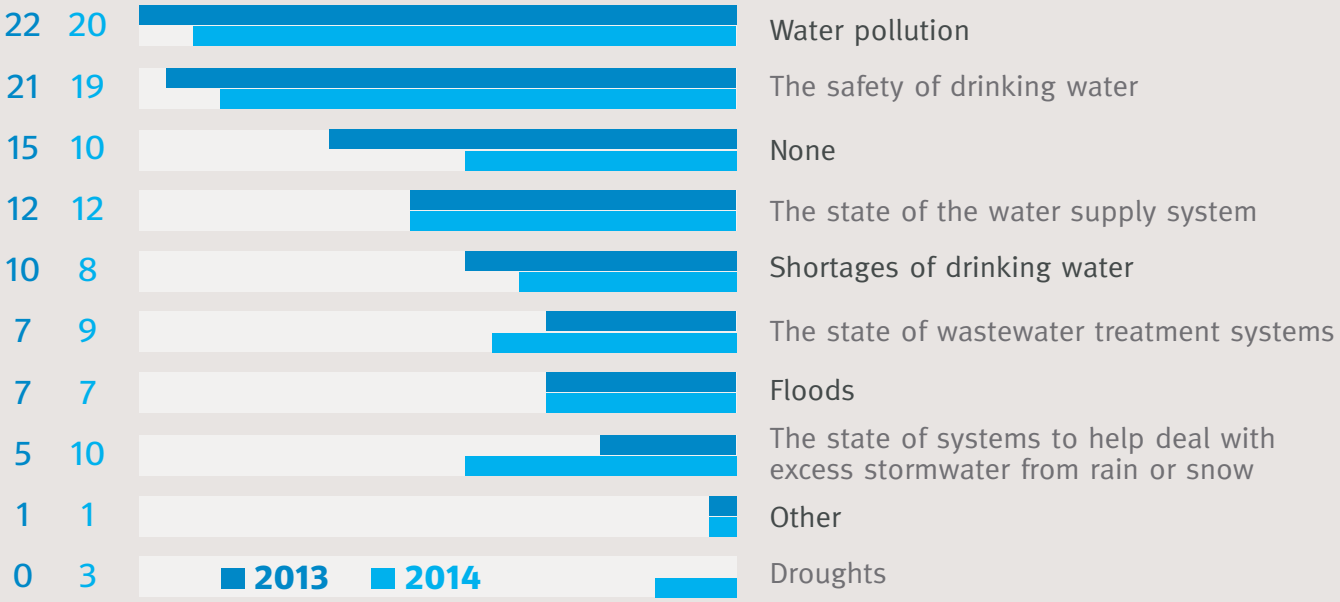
Other Cities

The City of Mississauga, Ontario is developing a stormwater rate that is scheduled for implementation in 2016 and the City of Guelph, Ontario is in the middle of a feasability study. Cities like Edmonton and Calgary, Alberta have piloted a number of low impact development projects in the form of bioretention, rain gardens, and bioswales, but do not currently have plans to implement stormwater charges.

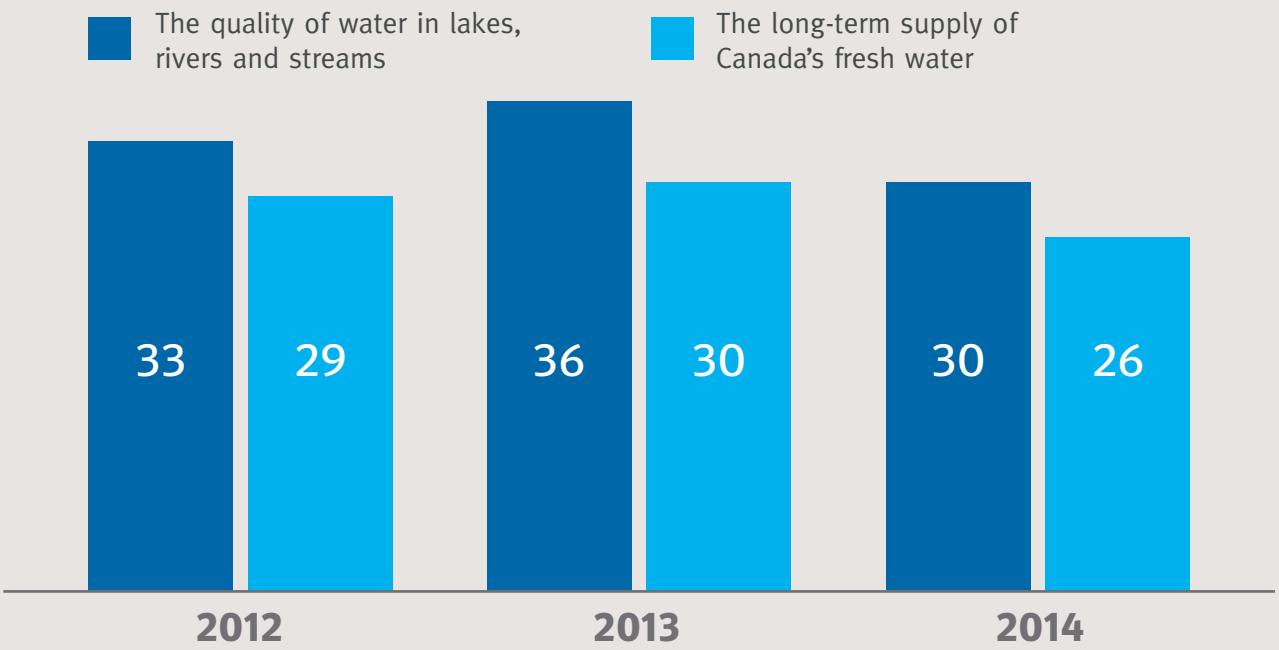
More than **2 in 5** municipal water users are **unaware** of the **water supply, sewage, and stormwater management systems** servicing their homes

The Unaware Water Consumer

Ten years from now, which two of the following do you think will be the **greatest water-related problems** facing your community?



Canadians are **somewhat concerned** or **very concerned** about...



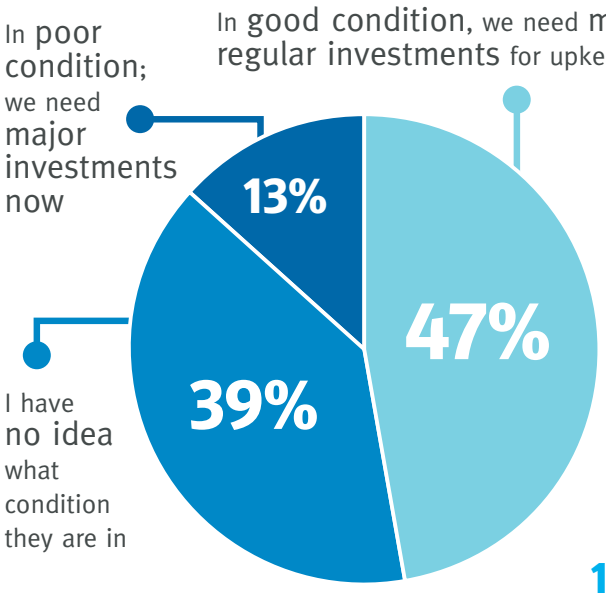
Paying the Piper

The housing market in Alberta has yet to recover from the 2013 floods. Calgary real estate agents say some disaster-affected homes have seen price drops of 10 per cent.

Water experts agree that investing in water infrastructure should be a top priority for Canadians, but this is difficult to enact when there is little public support for such investments. But taxpayers across Canada need convincing.

"We'll eventually run out of time if we're stuck with these [extreme weather events] too often. Now's the time to move," Bob Sandford says. "The cost of these events is so dramatic that, for example, the provincial deficit for Manitoba in 2011 was roughly a billion dollars, which is roughly the same amount as the disaster relief from the flooding."

What's the condition of the **water treatment and delivery systems** in your community?



Paying the Piper

Sandford says if municipalities continue to be unprepared for such events, it'll be hard for them to recover. "Sooner than later, some of these regions could be bankrupt by the persistent serial flooding events of the magnitude we're seeing. Governments need to be aware that hydro-climatic change is real and it's going to be costly to our society. The costs are rising and we can no longer afford to sit on our hands and do nothing. Will these RBC results open our eyes?"

Managing Water, Managing Capital

With an aging demographic and Canadians making hospitals and health care top priorities, water has to compete for tax dollars to pay for necessary infrastructure upgrades. Carl Yates says the responsibility will ultimately fall on municipalities and utilities to raise water rates because he believes, "It's not an option to do nothing."

Tanja McQueen adds, "We need to communicate with water users that there is a value to the system, that water is not free. It doesn't just simply fall from the sky. There is a cost to collecting it, treating it, and delivering it, and those systems need to be maintained and upgraded. We need to be willing to pay for that."

McQueen says this doesn't necessarily mean Canadians will have to pay more taxes. She suggests that municipalities "think very carefully" about how tax dollars are being used and to put funds toward projects that are important to public health.

"Water should be at the top of that list—not a big fancy new hockey arena," she says.

Compared to experts from other regions in Canada, **experts in Ontario** were more likely to **find infrastructure issues** relating to water distribution, sewage, and stormwater to be **"extremely" and "very serious"**

Water Experts Weigh In

"Stormwater management is not sexy politically. That's not going to get you elected. It's easy to ignore subsurface water infrastructure deficits, which are enormous, because it's easier to concentrate politically on things that are visible."
—Bob Sandford

"In order for us to put the water, wastewater, and stormwater systems in good shape, we're going to have to raise rates or use a user-pay principle where, if you use more, you pay more."
—Carl Yates

Paying the Piper

33%
hospitals

17%
green energy

Which **infrastructure** areas should be the highest priority for **government funding** in Canada?

1%
stormwater management

12%
drinking water

Just 10%
of Canadians believe that the **greatest water problem 10 years from now** will be **the state of systems** to deal with excess stormwater from rain or snow

77%
of **water experts** believe the **state of stormwater management systems** in their region is a **serious issue**

Just 1 in 5
members of the general public believes that **major investments** in **stormwater management** are necessary

Municipal Scorecard

Municipalities are perceived to be doing as well or slightly better on **water treatment and delivery** compared to last year

My Municipality:		Excellent	Very Good	2014 Regional Ratings BC	AB	SK/MB	ON	QC	ATLANTIC
Provides an adequate quantity of water	2014	39	50	39	41	40	32	45	45
	2013	37	48						
	2012	41	47						
Provides good quality drinking water	2014	36	49	38	46	29	31	38	42
	2013	35	49						
	2012	34	50						
Responds effectively to repair breakages in water and sewage systems	2014	19	56	17	20	22	15	21	28
	2013	19	56						
	2012	22	54						
Maintains current water and sewage systems to prevent breakages in the short-term	2014	16	54	15	15	9	14	19	23
	2013	12	56						
	2012	15	53						
Ensures that water services are priced affordably for individual residents	2014	15	51	16	12	11	10	26	16
	2013	14	48						
	2012	17	48						
Prices water services to cover the full costs of delivery to and use by individual households	2014	14	53	11	12	15	12	20	16
	2013	13	49						
	2012	13	51						

A Look Ahead

When RBC first set out to poll Canadians on their attitudes toward water, it did so with the intention of contributing to the national conversation. The findings may prove to be beneficial for municipalities looking to defend future decisions regarding water use and water infrastructure. Discovering what Canadians value, what they know, and what they should value and know may ultimately help municipalities and businesses reward or create change.

According to Bob Sandford, federal and provincial governments should work together to produce the highest quality flood predictions possible instead of relying on each respective province and territory to do its own separately. Municipalities also need to rethink where building takes place.

"In Alberta, we realized two things: our prediction system is inadequate and our flood maps are irrelevant," he says. "The floodplains are now much different than what we thought, and it affects where and how municipalities grow."

Sandford adds that there is a lot individual property owners can do to protect their properties and their families from the harshest effects of flood disasters, but these adaptations are only effective to a point. "Without meaningful local and regional adaptation strategies, we're going to be very vulnerable," he says.

To offset the costs of water infrastructure projects, municipalities will likely turn to public-private partnerships for water and wastewater projects. These have generally been held back in the past by concerns over ownership and the potential loss of public control—seen as the "privatization" of water—but opinions seem to be changing. Recently, after a city-wide referendum, Regina, Saskatchewan moved forward with a public-private partnership for a wastewater treatment plant. Such partnerships provide significant benefits and opportunities for both municipalities and businesses.

"As Canadians, we're accustomed to having governments deliver public services, including water. What we may see going forward is increasing involvement of the private sector in providing the capital for these systems," Tanja McQueen says. "We're looking for ways for the private sector to leverage their expertise and their access to capital to deliver those systems for us."

"There's an opportunity for business and there's a real challenge for governments to establish clear priorities. It's very easy politically to like the sexy project, but that project may not in fact be the one that's of the greatest need to the community," she adds.

A Look Ahead

The business of water

While the responsibility of managing and regulating water largely falls on government bodies, businesses in the Canadian water sector may shoulder some of the responsibility—and reap the benefits.

"Infrastructure updates mainly rest with municipalities, but businesses can contribute to turn things around," Carl Yates says. "Business has always been there to design and build the infrastructure if the funds are available. The good news is that the technology is available and the methods are available. It's really about getting the fiscal responsibility piece in place: how can we fund this infrastructure on a sustainable basis?"

Businesses can stand to benefit from having educated and aware water users that demand better and more reliable water systems. Engineers, contractors, and treatment plant operators all know that water can mean big business when the demand is there.

Any business can do its part to conserve water and alleviate water issues. A simple shift in business practice could result in incremental, but important, change. For example, businesses with big, paved parking lots may begin to see the benefits of adding bioswales and vegetative strips to their sites. Changes like this can go a long way to increasing awareness and highlighting the importance of preparing for the extremes that will be the new normal.

Water Experts Weigh In

"As Canadians, we need to get over the sense that the private sector is Darth Vader; it's not Darth Vader. The private sector can very effectively run and manage a water system. We just need to be willing to explore what that might look like." —Tanja McQueen

"We don't know what the design standards for stormwater should be because we don't know how big and out of control these extreme weather events will be. When that realization becomes apparent, then you'll start to see the types of changes that we're looking for politically and municipally. We've got to have a resilience revolution." —Bob Sandford

"Historically, water providers and water purveyors were viewed as a silent service, and sometimes we liked it that way. But if Canadians don't hear from us, we're not news and nobody knows about us or the water issues we're dealing with." —Carl Yates

"Municipal and provincial leaders should invest in better water management infrastructures, but also protect, preserve, and/or restore green infrastructure that can significantly act against excessive water runoffs, while creating better urban living spaces." —Jean-Patrick Toussaint

Acknowledgements

Market research for the RBC Canadian Water Attitudes Study was conducted using GlobeScan methodology. Weighting was employed to balance demographics, to ensure that the sample's composition reflected the adult population according to Canadian census data, and to provide results intended to approximate the sample universe. Results were weighted by gender, age, region, and community size. The sample includes a minimum of 200 respondents in each of Calgary, Halifax, Montreal, Vancouver, and Winnipeg, and a minimum of 300 in Toronto.

Respondents for the 2014 RBC Canadian Water Attitudes Study were selected from among those who have volunteered to participate in GMI's online surveys and polls. The data have been weighted to reflect the demographic composition of the Canadian population. Because the sample is based on those who initially self-selected for participation rather than a probability sample, sampling error cannot be calculated. All sample surveys and polls may be subject to multiple sources of error, including, but not limited to, sampling error, coverage error, and measurement error. The margin of error for a strict probability sample for a sample of this size (*n*=2,074) would be plus or minus 2.2 percent 19 times out of 20.

To prepare for the 2014 RBC Canadian Water Attitudes Study—and to ensure that the 2014 questionnaire was designed to yield results which were as stimulating and useful as possible—GlobeScan and RBC conducted a short (pulse) survey of experts on water issues. The findings from the pulse survey were used to guide the questionnaire development. The contacts invited to participate in the pulse poll were provided by both GlobeScan (drawing on existing resources and supplemented by desk research) and by RBC. Contacts were screened to ensure familiarity with urban water issues in Canada.

RBC would like to thank the experts interviewed for the development of this white paper: Bob Sandford, Jean-Patrick Toussaint, Anthony Westenberg, Tanja McQueen, and Carl Yates.

The RBC Blue Water Project is a 10-year, $50 million commitment to help protect water, especially in urbanized areas.

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to a healthy conversation
about the value and vulnerability
of water in Canada.

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