



Maritime Provinces Water & Wastewater REPORT

Volume 28 / Number 04 OCTOBER 2021 \$3.00

New Rothesay wastewater treatment facility will help protect local waterway

■ BY ANDY WALKER

Just prior to the federal election, officials from all three levels of government announced funding for a new wastewater treatment facility in Rothesay, N.B.

The new facility, to be built on the site of the existing two-step lagoon, is the second phase of a larger initiative to modernize the town’s wastewater collection system.

The new plan will increase treatment capacity by using ultraviolet disinfection. Once completed, the new wastewater treatment facility will help release cleaner water into the Kennebecasis River. This project will help support a cleaner environment and ensure Rothesay residents can enjoy the local waterway for years to come.

“Project like the new wastewater treatment facility in Rothesay will ensure residents can enjoy the Kennebecasis River and keep it healthy for many years,” said Wayne Long, Member of Parliament for Saint John–Rothesay, who announced the \$8.6 million in federal funding on behalf of the Catherine McKenna, Minister of Infrastructure and Communities at the time of the announcement.

The federal money is through the Green Infrastructure Stream of the Investing in Canada program. The Government of New Brunswick is spending over \$7.2 million, while the Town of Rothesay is contributing over \$5.7 million.

“Investing in improved wastewater and drinking water facilities is an important part of delivering on our government’s priority to build vibrant and sustainable communities,” said Ted Fleming, Minister of Justice and Public Safety, Attorney General and Member of the Legislative Assembly for Rothesay. “With projects like these, we are not only preserving public health and protecting the environment, we are also equipping these communities with the infrastructure they need for population growth and economic recovery.”

Mayor Dr. Nancy Grant explained “The Kennebecasis River is the most prominent physical feature of our town and its water quality must be of the highest quality for our residents and for the many others in the region who use it for recreation in all its many forms.”

She said the new plant will enable ensure the wastewater coming from Rothesay is as good or better quality than that

in the river receiving it.

Mayor Dr. Grant explained the town is very pleased to be investing along with the federal and provincial governments to ensure this wonderful resource is protected well into the future.



The Kennebecasis River near the Kingston Peninsula.

Photo: Wikimedia Commons



MESSAGE FROM THE CHAIR

■ BY JEFF ROGERS

Fall is here and so is the time to start thinking about an operator you work with that would be a great candidate for the MPWWA Operational Excellence Award. The Operational Excellence Award recognizes an individual operator who, through their work, provides excellent service delivery.

The board of directors are currently in the planning process for our spring 2022 conference in P.E.I.

Please submit the survey that was sent out to you about attending an in-person conference. Completing the survey will give us information we need to move forward with conference details. The call for papers and sponsorship will be coming out shortly.

Stay safe everyone.

INDEX	
Northern Pulp	3
Bridgewater spending	4
Water loss	5
Inverness shortage	6
Shediac upgrade	9
Operator award	11
Cornwall lagood	12

ADDRESS LABEL HERE

Publication No. 40064799

Lunenburg awards contract for Phase 3 of flood risk mitigation project

■ BY GAYLE WILSON

The Municipality of the District of Lunenburg (MODL) council in Nova Scotia awarded the contract for Phase 3 of the Petite Rivière Flood Risk Mitigation Project to CBCL Limited for \$89,800 plus HST at its Oct. 12 meeting.

However, residents are being warned the costs won't stop there.

Deputy Mayor Martin Bell expressed concern regarding the "high cost associated with any of the options" suggested as a way forward. However, he said he would be supporting the motion to award the contract to CBCL "considering the risks not to take possible action on this."

Included in the deal is a 20-per-cent contingency (\$17,960) to ensure the achievement of Phase 3 objectives.

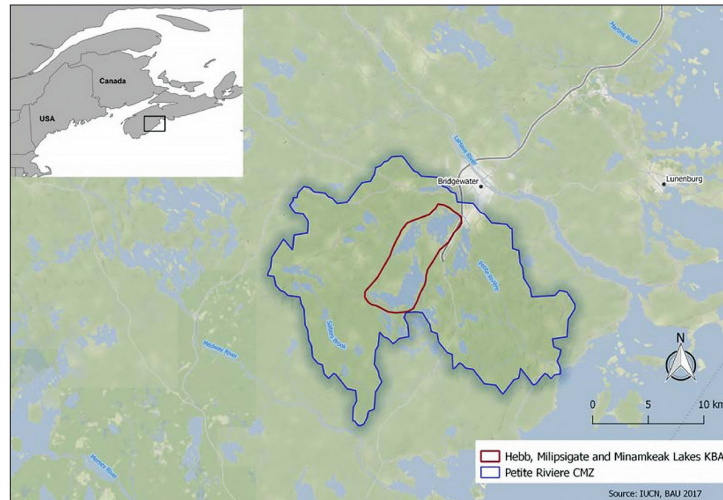
Council has been working with the Hebbville Village Commission, MODL residents and other stakeholders on examining the flood risk in the Petite Rivière watershed and examining possible mitigation options for some time.

Phase 1 of the work summarized the extent of flood risk in the watershed, while Phase 2 examined possible solutions and provided some preliminary screening to

determine a limited range of mitigation solutions for further study. Phase 3 of the project focuses on the top three ranked flood mitigation options, which include building resilience (water level monitoring and flow coordination with the Bridgewater Public Service Commission, BPSC); flow control (constructing and operating a dam at the outlet of Fancy Lake); and increasing conveyance capacity (dredging to increase the outflow from Fancy Lake).

There will also be a series of public and stakeholder engagement sessions, including a public open house and a public survey; consultation with BPSC and regulatory bodies; and engagement with First Nations.

The working group from the Hebbville Village Commission will be invited to participate in a focus group prior to the completion of the consultative report, as well as invited to participate in the open house and survey portion of the project, accord-



Map showing the location of the Hebb, Milipsigate and Mianamkeak Lakes Key Biodiversity Area (KBA) and the Petite Rivière Catchment Management Zone (CMZ).

International Union for Conservation of Nature graphic

ing to a staff report on the issue, which added that council is to receive a final report for discussion in March 2022.

In November of 2019, MODL also awarded CBCL Phase 2 of the Petite Rivière Watershed Flood Risk Assessment and Mitigation Study. For both Phases 1 and

2, CBCL reportedly received the highest scores for price, technical and overall proposal among the proponents.

The Province of Nova Scotia has awarded 50 per cent matching funds up to \$73,000 for the completion of Phase 3 of the project. MODL has a budget of \$146,000 to complete the project.

Bell commented it would be irresponsible of MODL not to be having this discussion, given "the adverse effects of flooding." However, he said moving forward would need federal or provincial funding and "preferably both because all of the options are coming with a very, very high cost, especially when you divide it by the number of homes that are directly affected by this."

Mayor Carolyn Bolivar-Getson echoed the sentiment. "I guess I couldn't agree more Deputy Mayor Bell. This definitely is going to come with a very high price tag attached to it. And it will require all three levels of government to be involved," she said.

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Northern Pulp, as seen from across Pictou Harbour this past July.

File photo

Northern Pulp paying Colchester facility to treat storm water and landfill leachate

■ BY JANET WHITMAN

Managers of the Northern Pulp mill in Pictou County, N.S. are looking into the feasibility of treating the run-off from its toxic landfill onsite, instead of trucking it to Truro.

Since the shutdown of its Boat Harbour effluent treatment system in May 2020, the shuttered pulp and paper mill has been paying the Colchester County Wastewater Treatment Facility to treat the storm water and landfill leachate. Once processed, it ends up pumped into the Bay of Fundy.

Northern Pulp declined to say where in the Pictou area it would funnel the treated leachate from its landfill, which includes water from the materials deposited, precipitation and surface run-off.

Collecting and disposing of the landfill liquids are part of a ministerial order issued by the province with the closure of Boat Harbour.

The engineered landfill, south of the main mill complex, opened around 1980 and was permitted under various industrial approvals issued by Nova Scotia Environment. It contains select residuals

from the mill operations including primary sludge, fly ash, bottom ash, lime residues and slaker residues.

The Truro wastewater plant is one of only a handful in Nova Scotia equipped to handle landfill leachate.

Graham Kissack, vice-president of environment and health and safety with Northern Pulp's British Columbia-based parent Paper Excellence, told the Advocate the mill is investigating the possibility of adding an onsite facility to treat the surface water and leachate. An interim measure, it would be replaced by the multi-million dollar effluent treatment system the company is proposing to get the mill restarted, assuming it wins environmental approval.

Sean Lewis, who helps handle local media inquiries for Paper Excellence, says the company is in the early stages of understanding the feasibility of developing an interim onsite treatment solution for the leachate.

The system would need several approvals, permits and monitoring requirements at the provincial and federal levels.

Paper Excellence doesn't yet have an

estimated cost for the interim leachate treatment system. The stopgap measure could be a cost-saver before what the company has been touting as a complete transformation of Northern Pulp into "one of the world's cleanest, most environmentally focused and community-based mills."

The preliminary estimated bill for the total mill overhaul is \$350 million. Kissack says the new advanced tertiary effluent treatment facility and processes, which would also process the surface water and landfill leachate, represent close to half of the tally.

Asked if the company would be requesting government help foot the bill for the reopen, Kissack said, "We are prepared to invest hundreds of millions of dollars to create a clean and sustainable mill."

Lewis said mill officials haven't spoken with Progressive Conservative Premier Tim Houston since he took over from Liberal Iain Rankin, becoming Nova Scotia's 30th premier.

Town of Westville Mayor Lennie White said he only recently became aware of the transport of the leachate, which was first reported by the Halifax Examiner.

"This was never mentioned at the Northern Pulp presentation to our council or a previous virtual presentation made in June to the mayors and warden of Pictou County," he says. "I find this to be rather concerning."

White said he has concerns about what seem like a lot of unknowns regarding the treatment of the effluent, the proposed discharge into Pictou Harbour, as well as the discharge from the stack.

He said he's pleased that the proposal will undergo a more stringent "level two" environmental review, saying it's something he'd urged the mill to do.

"They should be open to (it) if they are confident in their plan," he said. "I am hopeful that the science will be the determining factor in the decision whether to reopen or not."

As a municipal leader in Pictou County, White is also worried about the division the proposal is causing in the community.

"I am hopeful people will be respectful of differing views and a solution can be found that takes in both the economic and environmental concerns expressed by the distinct sides in this matter," he says.



Maritime Provinces Water & Wastewater REPORT

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Major water loss happening at N.S. water treatment facility

■ BY KEVIN MCBAIN

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There is no accounting for about 50 per cent of the water coming out of the treatment centre in Liverpool, N.S. according to a recently completed Water Utility Rate Study, presented to the Region of Queens Municipality (RQM) at its council meeting on Aug. 10.

The study, conducted by GA Isenor Consulting Limited in association with Blaine S. Rooney Consulting Limited, is the first such one the municipality has undertaken since 2002.

"There is no way of knowing how long this has been happening," RQM Mayor Darlene Norman commented about the water shortfall in an email. "What we are focusing on is investing in our infrastructure to increase the efficiency of the system going forward to ensure that our water utility continues to provide a consistent supply of quality water to our ratepayers."

Norman believed the water study should be conducted every three years. "It's important to know if you are bringing in enough revenue to cover the expenses of the utility," she said.



Region of Queens Municipality Mayor Darlene Norman

File photo

Gerry Isenor and Blaine Rooney have been undertaking water rate studies across the province for a number of years. They presented their study of the Liverpool treatment centre to the Aug. 10 council meeting, which included estimates for the next three fiscal years.

The presenters advised that the 50-per cent loss is considerably higher than the norm, and that an expectation for water

loss in a system of this age is normally between 20 per cent and 30 per cent.

According to the mayor, some of the loss could be attributed to line flushing, the balancing of water and chemicals at the treatment plant and some of the older meters malfunctioning. However it's believed that much of the water is being lost as it goes through one of the main water lines, which was built in the 1890s coming down from Roy Turner Drive.

A total of 1,225 residents from the former town of Liverpool and Milton are hooked up to the utility. The treatment plant produces about 290,626 cubic metres of water passed on to consumers.

If the study and its recommendations are approved by the Nova Scotia Utility And Review Board (NS UARB), work on leak detection and restoration or replacement work will begin during the 2022-23 fiscal year.

A depreciation fund has been in place by the municipality for a number of years for upkeep for the water utility. With \$1,059,000 in the account, the municipality is not likely to have to borrow money to have the necessary work done nor is the cost expected to be passed on to the consumers.

Rates going up

However, if the water study is approved, as recommended in the report the rates for the 2022-23 fiscal year will increase 12.8 per cent followed by hikes of 0.4 per cent in 2023-24 and 3.9 per cent in 2025-26.

For the average household consumer, this will mean an additional \$9.60 on their bill next year, followed by an increase of 30 cents in the second year and \$3.34 on their bills in the third year.

While Norman conceded the increase may sound like a lot, she noted that Liverpool's rates are among the lower ones in the province. According to a chart presented with the rate study, Liverpool's rates are among the 10 lowest of about 50 water utilities that were accounted for throughout the province.

"If people do want to lower their water rates, they can still do so by reducing their consumption," Norman reminded. Despite efforts to get people to reduce their consumption, there hasn't been much change in the average consumption of Queens residents since 2004, according to the study.

The municipality is expected to hold a public hearing concerning the proposed rate increases within the next three-to-six months, with the NS UARB decision on the planned way forward expected about three months after that.

If approved, the new rates likely would come into play before the next fiscal year, which begins April 1, 2022.

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Staff reports back to council about summer water shortage in Inverness

■ BY JAKE BOUDROT

Last summer's water shortage in the village of Inverness, N.S. was the subject of a recent staff report to municipal council.

During the Oct. 7 regular monthly meeting of Inverness Municipal Council, staff members reported back to council about an advisory issued last in July for users of the Inverness water utility.

Last month, the municipality confirmed it was no longer transporting water, and was working to connect to another well at the treatment facility, during an update by

Chief Administrative Officer Keith MacDonald.

At the time, District 4 Councillor John MacLennan said he received information from members of the public that Cabot Golf was maintaining their facilities, while the rest of the community was forced to conserve consumption.

Deputy Warden Bonny MacIsaac replied that the Cabot Links and Cabot Cliffs facilities use a separate system from the rest of the community, which was confirmed by MacDonald.

At the time, MacDonald said, to his

knowledge, Cabot Golf did not use the water that was being transported to the community, and has its own well for irrigation, but he said municipal staff would investigate whether the water being provided to Cabot Golf was being used strictly for their restaurant and hotel facilities, then report to the October council meeting.

During last week's meeting, Chief Financial Officer Tanya Tibbo said such the advisory was issued because of "water consumption outpacing water production," between July 27 and Aug. 28.

"During that time, approximately 5,300

cubic metres was trucked from the Whycomagh water system to the Inverness water system," she told council.

During that period of time, customers with upgraded metres had readings taken twice daily, "over a number of days," to determine where there could be "possible leaks," Tibbo said, noting that water levels in the reservoir was checked daily. She said H2O Leaks was contracted to train municipal staff to use the new water leak detection equipment recently purchased by Inverness County.

Continued on page 7



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Staff reports back to council about summer water shortage in Inverness

Continued from page 6

"The leaks that were a municipal responsibility were repaired by municipal staff, and the leaks that were the property owners' responsibility, were repaired by property owners," she noted.

While that was going on, Tibbo said well #8 was temporarily connected which eliminated the need to haul water from other communities.

The CFO told council that Cabot Links

represents about 5.4 per cent of the total consumption in Inverness and is not permitted to use municipal water to irrigate the golf course, instead using a nearby pond. Cabot Cliffs also cannot use municipal water for irrigation, and has two ponds it uses for irrigation.

Municipal staff determined that Cabot Golf did not use municipal water trucked in from other communities to water its golf courses.



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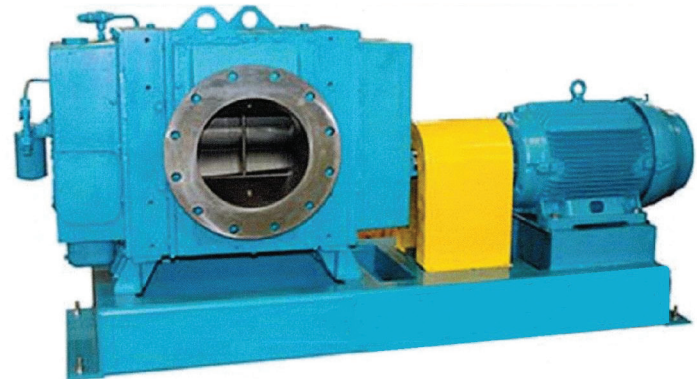
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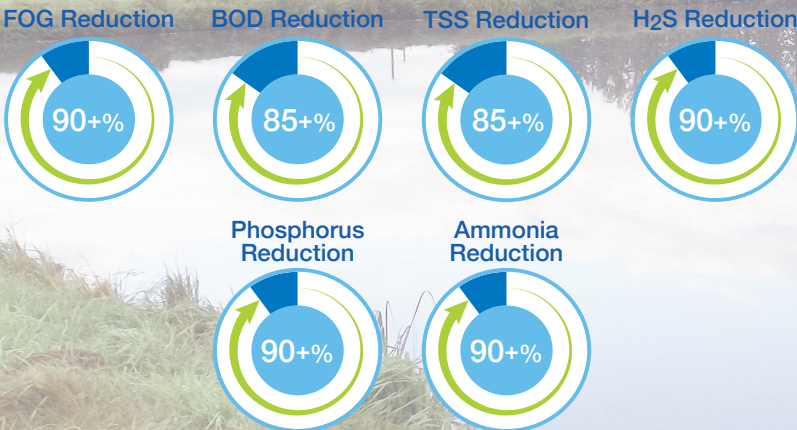
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Shediac receives upgrade to water and wastewater systems

■ BY ANDY WALKER

The Town of Shediac, N.B. is getting an upgrade to its wastewater and water systems.

The announcement of the project, valued at just over \$7 million, was made in mid-August by the three levels of government. The Town of Shediac and the Greater Shediac Sewerage Commission will upgrade the sanitary, water and storm systems on Main Street, Grand Pré Street, Inglis Street and Dupuis Street.

“This major investment in infrastructure renewal at the town’s main entrance supports growth in Shediac,” said Mayor Roger Caissie. “The work will allow for continued development in Shediac’s west end and help bring environmental benefits.”

These upgrades will reduce the likelihood of overflow events at the lift stations, and will increase the capacity to treat and manage wastewater and stormwater. In addition, a new ultraviolet disinfection process will considerably improve the cleanliness of the town’s wastewater before its disposal in the Shediac Bay.

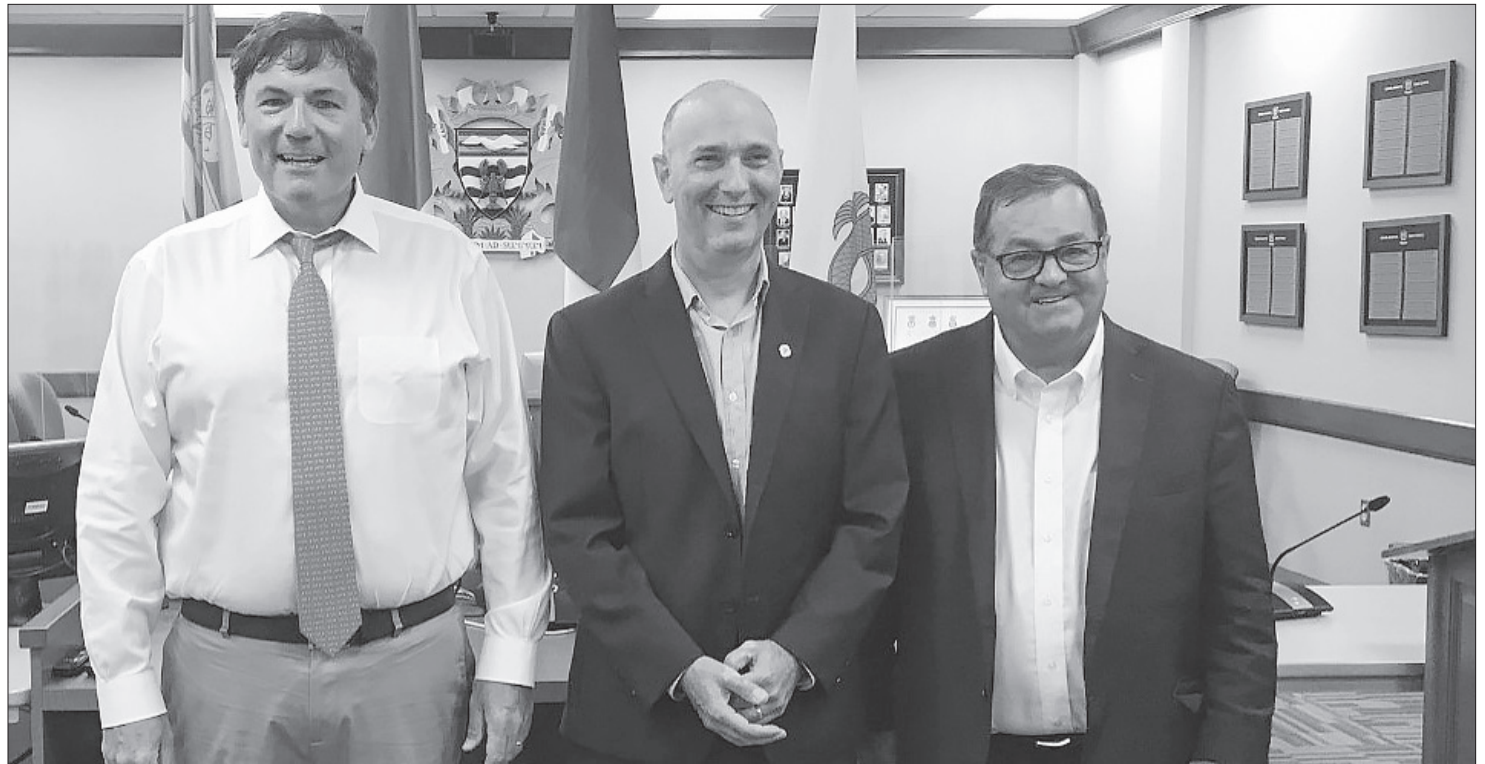
“This investment is key to ensuring the protection of Shediac Bay’s beautiful beaches,” said Dominic Leblanc, President of the Queen’s Privy Council for Canada and Minister of Intergovernmental Affairs at the time of the announcement. “By upgrading the town’s wastewater infrastructure, we are investing in the health of our local ecosystems and our local economy.”

The Government of Canada is investing more than \$2.9 million in this project through the Green Infrastructure Stream of the Investing in Canada program. The Government of New Brunswick is

providing more than \$2.4 million, while the Town of Shediac is contributing more than \$1.9 million.

The mayor noted, “Shediac Bay is one of Southeastern New Brunswick’s most extraordinary natural attractions. Tourists from all over Canada come to our region for its beautiful beaches. By investing in the quality and the health of the waters in the Shediac Bay, we invest in the vibrancy of our tourism sector while protecting our environment.”

Meanwhile, the provincial environment and climate change minister responsible for the Regional Development Corporation noted “Investing in improved wastewater and drinking water facilities is an important part of delivering on our government’s priority to build vibrant and sustainable communities.” Gary Crossman went on to say “We are pleased to partner with the federal and municipal governments to ensure preserve public health, protect the environment and equip Shediac with the infrastructure they need for population growth and economic recovery.”



In August, the provincial, federal, and municipal governments announced \$7.2 million in funding for renewal and improvements to the municipal wastewater and water system in Shediac. From left: MP Dominic LeBlanc, Shediac Mayor Roger Caissie and Environment and Climate Change Minister Gary Crossman.

Photo: Government of New Brunswick



Popular Parlee Beach faces Shediac Bay.

Photo: Wikimedia Commons

Wastewater analysis suggests drug consumption increased during pandemic

■ BY ANDY WALKER

Results from Canadian Wastewater Survey (CWS) conducted by Statistics Canada in Halifax and four other major Canadian cities suggests there has been an increase in drug consumption since the start of the pandemic.

The analysis also indicates that estimates for drug use vary significantly from city to city, suggesting that different cities have distinct drug use profiles.

The CWS has been testing wastewater samples from various wastewater treatment plants in five cities across Canada (Halifax, Montréal, Toronto, Edmonton and Vancouver) since March 2019. Analyses of wastewater samples produce estimates of the amount of a given drug metabolite (a chemical made when the body breaks down a drug) entering the wastewater system, which is generally expected to reflect the overall quantity of the drug consumed by the population within a given area.

The latest CWS data provide monthly estimates of drug metabolites in wastewater for 14 drugs of concern based on samples collected from March to July 2019 and from January to July 2020. The estimates are based on the amount of drug measured in wastewater and presented on a load per capita basis, per day.

Of the 14 drugs measured, the levels of cannabis, fentanyl and methamphetamine were found to have significantly increased



Photo: Wikimedia Commons

early in the pandemic. Results from the wastewater show that the levels of cannabis metabolite (THC-COOH) in wastewater increased in the initial months of the pandemic compared with early 2020 (April and May compared with March), before reverting to pre-pandemic levels. In April 2020, the load of cannabis metabolite in wastewater was 28 per cent higher than in March 2020.

Halifax has 650 grams per 1,000,000 people per day in 2019 and that increased to 742 grams in the early days of the pandemic. That was significantly higher than Montreal (216 and 254 grams respectively), Toronto (190 and 242 grams), Edmonton (377 grams and 455 grams) and Vancouver (283 grams and 273 grams).

Compared with cannabis, the increase in the wastewater was even more notable for fentanyl, a synthetic opioid painkiller that can result in death, even in trace amounts. Consequently, its presence in other drugs, sometimes unknown to the user, significantly increases the risk of overdose. On average, wastewater loads of fentanyl in April 2020 were similar to those observed in the months preceding the pandemic, but were

almost twice as high in May, and close to three times higher in June and July.

In the March to July period, Halifax had 0.4 grams of fentanyl per 1,000,000 people per day. Montreal had a similar rate with Toronto at 1.3 grams, Edmonton at 2.3 grams and Vancouver at 12 grams. In the March to July of 2020 period, Halifax was up to 0.6 grams, Montreal had 0.2 grams, Toronto was at four grams, Edmonton at 4.8 and Vancouver at 20.1 grams.

Methamphetamine is a potent stimulant known for its psychoactive effects. Methamphetamine levels also rose following the onset of the pandemic, although the increase occurred later (May and June), and dropped below pre-pandemic levels by July. However, when comparing the early pan-

demical months with their 2019 equivalents, there appears to be an increase in the loads of in wastewater early in the pandemic.

In the 2019 survey, Halifax had 26 grams per 1,000,000 people per day of methamphetamine but that went down to 21 grams during the pandemic. That was significantly lower than any of the other four cities either before or during the start of the pandemic.

While there have been increases in the loads of certain drugs appearing in wastewater over the period of the pandemic, it continues to be the case that these differ by city. In both 2019 and 2020, per-capita loads of fentanyl in Vancouver were more than four times higher than in any other city. Edmonton had the next highest levels, followed by Toronto; Halifax and Montréal had the lowest levels.

In addition, although data from the 2015 Canadian Tobacco Alcohol and Drugs Survey reveal that overall methamphetamine use in Canada is low (0.2%), results from the CWS indicate that methamphetamine loads were highest in Edmonton in both 2019 and 2020, and that per capita, there was approximately twice as much methamphetamine entering the sewers than in Vancouver.

In contrast, wastewater-based estimates of THC-COOH were highest in Halifax in both 2019 and 2020. Edmonton had the next highest levels, followed by Vancouver; in contrast, Montréal and Toronto had the lowest levels. These intercity differences are also consistent with provincial and territorial trends from Statistics Canada's 2019 National Cannabis Survey, which showed that the percentage of people reporting cannabis use in the third quarter of 2019 was highest in Nova Scotia (32.8 per cent) and lowest in Ontario (16.9 per cent) and in Quebec (11.5 per cent).

Inverness water/wastewater operator earns award

■ BY JAKE BOUDROT

A municipal employee in Inverness County, N.S. recently received an award for efforts on the job and in the community.

Municipality of the County of Inverness water/wastewater operator Mark Copley was presented with the Operational Excellence Award for Drinking Water Operations which is awarded annually by the Maritime Provinces Water and Wastewater Association (MPWWA).

"I didn't know anything about it so obviously somebody did something behind the scenes to get my name in there," he told council.

The association said Copley received the honour in recognition of his dedication to operational decision-making, assistance to co-workers and community involvement.

As a municipal team member since July 2012 and a senior operator since October 2020, the Municipality of the County of Inverness said in a press release issued last week that Copley has been involved with operating water treatment facilities in Chéticamp, Inverness, Mabou, Port Hood, Judique, Port Hastings, and Whycomagh. The municipality said he monitors the operation of all



Inverness County water/wastewater operator Mark Copley (centre) was presented with the Operational Excellence Award for Drinking Water Operations which is presented annually by the Maritime Provinces Water and Wastewater Association. He was congratulated by Inverness Warden Laurie Cranton (left) and Deputy Warden Bonny MacIsaac.

Photo by Jake Boudrot

treatment facilities, both on-site and remotely, to ensure proper operations, performs water quality tests, submits sam-

ples to accredited labs as required, and works with management to address facility maintenance and treatment needs.

Inverness County said his experience and ability to effectively transfer knowledge to other co-workers is invaluable. Along with his commitment to his work in service of Inverness County residents, the municipality said Copley is also an active volunteer in the community of Inverness.

"(Mr. Copley) regularly provides valuable input with management regarding major decisions related to drinking water facility operations, and he's a well-liked and valuable citizen throughout the County," said Alan Benninger, regional representative for the MPWWA. "Operators like Mark work hard behind the scenes in their communities and he is very worthy of this award."

Municipal council presented the plaque from the MPWWA to Copley during the September 2 regular council meeting, and council congratulated him on his achievements.

"Council is proud of the hard work and dedication Mark has shown in his role. This recognition is well-deserved," said Warden Laurie Cranton.

The MPWWA is an operator-based organization with over 850 members who provide the communities they serve with drinking water and wastewater services.

Cornwall applies for funding to remove sludge from lagoon

The Town of Cornwall, P.E.I. has applied to the Municipal Strategic Component of the Canada Community Building Fund to help cover the cost of removing sludge from its lagoon.

A resolution passed recently by town council notes the criteria for funding such projects recently changed and the Municipal Strategic Component now has levels that range from 50 to 100 per cent on the first \$500,000 of a project and 50 per cent on any portion exceeding \$500,000.

In moving the resolution, Councillor Elanie Barnes said, "It is not known in advance if funding will be approved or at which level funding may be approved. She said the estimated cost of the project is \$556,338.78.

Councillors agreed to appropriate sufficient funds in the 2022-23 capital budget to fund any municipal portion of costs subject to receiving sufficient information about the Canada Community Building Fund program.



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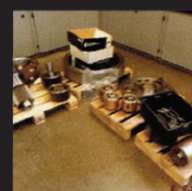
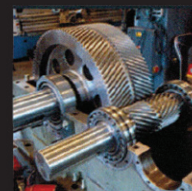
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