
PLASTIC BLUES

One Albertan's quest to stop government-sanctioned littering

By LISE MAYNE



Above: A machine in Edmonton, with a brush similar to the ones used in Nanton and across Alberta. It's designed to clear snow, but it breaks bylaws prohibiting littering. Facing: A young citizen in Calgary with plastic bristles collected in roughly two minutes.

EDMONTON SUN/CODIE MCLACHLAN



PICTURE THIS: YOU LIVE IN A neighbourhood in Anytown, Alberta. Quiet streets, a park with a duck pond and walking paths. The town has a recycling program, garbage- and dog-waste cans and spring street-sweeping. On your daily walk you collect a small amount of litter: you feel pride in your community. Then, one winter day, a busload of out-of-towners shows up and scatters plastic cups and blue scoop-straws along streets and pathways. You frown and pick up the mess. Next day, it's there again. And the next. Disturbed, you call town administration.

"Don't worry," they tell you. "Street sweepers will clean it next spring. The sewer catchment basin will collect the straws. Besides, it's recyclable plastic. You can put it in the blue bin. With our thanks."

You're puzzled. "How can plastic be recycled if no one collects it?" you ask. "The street-sweeper can't clean *pathways*. And what about microplastic going into the water from shredded straws?"

The town administrator isn't concerned: "No, no; it won't break down." But the evidence is before your eyes. Shattered straws are embedded in the ground, drifting in gutters, collecting on sewer grates. You've gathered hundreds just in your area, winter into summer.

So you write your local MLA. He denies knowledge of the problem, though straws cover the lot next to his fast-food restaurant. But he salutes your stewardship. You contact the provincial environment minister. It's out of his jurisdiction. He suggests, however, that "LittaTraps" in the stormwater drains—catch basins made of plastic—might help. The provincial Ministry of Transportation: "It's a municipal issue." Municipal Affairs: "Up to the town."

OK, then. What about the federal environment minister?

"The federal agenda includes banning harmful single-use plastic products where warranted and supported by science... Plastics are a valuable material in the economy... it is important that Canada... increase the recovery of plastics and retain their economic value, as well as reduce the amounts... (going) to landfills."

What...? "The sewer will clean it up?" "Plastics are important?" You shrug your shoulders. Oh well, it's only a few hundred straws. You give up.

Imagine these machine bristles were liquid oil. Would we "let the sewer system clean it up"?

This is a true scenario. Look down, any time of year, in most Alberta cities and towns; chances are you'll find them too. Not straws, no. Skinnier than straws, harder to see. Blue, orange, yellow or black plastic sticks, scattered on the ground, floating in gutters, perched on sewer grates. You start to collect them. Hundreds, even thousands of them.

Where do *they* originate? From angle brooms on skid-steer machines that clear snow. How are the plastic bristles attached? With hot glue. How might one prevent them from breaking off? One manufacturer's website: "Use on light snow, work slowly and avoid use in cold weather... to clear snow effortlessly and efficiently, (from) the comfort of the cab."

You contact still more elected representatives. Environment and Parks Alberta: "You may... pursue your concerns further with local recycling organizations to see if any cost-neutral

ways exist to minimize plastic pollution from municipal snow-clearing efforts. Thank you again...”

One call to Capital Paper Recycling Ltd. addresses that matter: “Unfortunately we are not able to recycle these, as they are not able to go into our baler; too small. Sorry to say, but they would unfortunately end up in landfill... they would have to be bagged up (not in garbage bags)... to put those in the baler. I’m sure that would be painstaking.”

To say the least. First they’d have to be collected and separated. If you and a few friends don’t stoop to collect them, they remain on the ground. They don’t magically *disappear*. You wonder who former environment minister Jason Nixon imagines would remove and clean those “filters” under sewer grates.

So you make a presentation to town council. June 2020. The chief administrative officer agrees to purchase a new roller attachment that will be “less messy.” It’s a start, you think. Then winter 2020–2021 begins. Now, along with the blue sticks you’ve been finding all summer, hundreds of orange sticks are appearing, shattered into bits or massed in huge clumps, glued together like a child’s craft project. You’re no engineer, but this is not less messy.

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S KIDS IN THE VILLAGE OF Blackfalds, we excitedly followed the telephone-line repairman, waiting at the foot of the poles for showers of plastic-covered, rainbow-hued wire. We, and he, laughed with delight. Six decades later I’m not laughing. Because now we know better. Or should.

As Lloyd Alter wrote in “Plastic Recycling in the US is a Fantasy” for *Treehugger*, a website that evaluates environmental claims: “The amount of plastic waste... reached 218 pounds per person in 2018—a 263 per cent increase from 1980. Plastic is essentially a solid fossil fuel, and creating it releases six kilograms of CO₂ for every kilogram of plastic made, which is one of the reasons why environmentalists are trying to reduce its consumption.”

Imagine these snow-clearing-machine bristles were liquid oil. Would anyone “let the sewer system clean it up?” Would that be acceptable? Would we let companies spray liquid oil along public pathways in parks? I recently pointed out black snow-machine sticks to my friend from Garrison Woods in Calgary. She’d never noticed them, in plain sight, scattered on the grass, lying in the gutter. Why would she? They’re virtually invisible. Smarter on the manufacturers’ part.

Consider the micro- and nanoplastics released simply by the action of abrasion—bristles spinning against hard pavement—and as the sticks flow through waterways and leach into the bottom of rivers and ponds. The latest news should concern everyone: “Microplastics have been detected in human breast milk for the first time,” *The Guardian* reported in October 2022. “Researchers [are] greatly concerned over the potential health impacts on babies.... The breast milk samples were taken from 34 healthy mothers, a

week after giving birth, in Rome, Italy. Microplastics were detected in 75 per cent of them.”

But I’ve been assured by government officials that while “polypropylene—which the bristles are typically made from—can become a microplastic if it breaks down enough over a long period of time... it is also a recyclable No. 5 plastic, and one of the least likely to cause leaching problems into the environment.”

Leaving aside the fact that these bristles are *not* being recycled, what should we make of our elected leaders’ confidence that this material is basically harmless? I consulted the University of Saskatchewan’s Markus Brinkmann, who studies the effects of particulate from rubber tires on the environment. “These bristles,” he told me, “appear to be a major route of macroscopic [visible] plastic pollution, and potential microplastic particles abraded from the tips of the bristles... polypropylene... [are] light enough to float on water.... Catch basins and storm ponds can do very little to remove these particles and bristles. How much does a spindle weigh fresh out of the box, and how much does it weigh when disposed of? The difference can be expected to be left in the environment.”

I’m no scientist, but I look at these sticks, including the orange ones “fresh out of the box,” and compare them to the shards and splinters on our sidewalks. Brinkmann goes on to wonder: “How many of these [machines] operate in your town, province, Canada and North America total, and how many spindles are sold annually? That could form the basis for a mass-balance estimation of the environmental impact.”

My point, exactly. This goes far beyond my town, my province, my country. But, adds Brinkmann, “The plastic itself is often less worrisome than the chemical additives found in it. In many plastic products, added fillers and chemicals comprise more than 80 per cent of the overall weight. These substances give the plastic desired characteristics, such as hard plastics that hold their form versus others that are soft and flexible.”

Sean Stepchuk of Waste Free Edmonton outlined his concerns about these sticks in a presentation to Edmonton City Council in 2019. All similar to mine. To his and my knowledge, nothing has changed. In total I collected almost two kilograms of plastic sticks in three years (remember, they weigh about 1 gram each). A citizen in Edmonton collected five kilograms along the riverbank in one season.

ARMED WITH MORE INFORMATION and thousands of sticks, I again spoke to my town council in May 2022. Some councillors seemed surprised; others were “somewhat ambivalent,” according to the local paper. One councillor said, “We use the machine or we don’t clean snow.” Another: “The method is tried, tested and true. You offer no solutions.”

There’s no solution? Imagine buying an “efficient” lawn mower that left oil residue on your grass. Would you justify its use? I think you’d demand a refund.

As my town’s CAO pointed out, towns, cities and private contractors all over Alberta use these sweepers. Then-

Calgary mayor Naheed Nenshi's office answered my letter to him with "bristle-loss is minimal and mitigated, partly by replacing the brush." Edmonton's mayor didn't reply.

My town's final response letter states "the regulation of plastics and their use in street-sweeping equipment is squarely a question for senior orders of government." Ric McIver, minister of Municipal Affairs, put the ball back in the town's court: "Under the Municipal Government Act, municipalities are charged with the responsibility to provide good government; to be mindful of local environmental issues; to provide services, facilities or other things that, in the opinion of council, are necessary or desirable for all or a part of the municipality; to develop and maintain safe and viable communities, and to work collaboratively with their neighbours... if a council makes a decision it believes is in the best interest of its citizens, it is not—in my opinion—my place to overturn that decision."

So... it's the federal government's jurisdiction, then? Perhaps under the ban on single-use plastic, since this sweeper spits plastic with Every. Single. Use. But neither federal environment minister Steven Guilbeault nor then-fisheries minister Joyce Murray answered my letters. "The painted ponies go up and down" in Joni Mitchell's "Circle Game."

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I DON'T BLAME MY TOWN OR ANY OTHER municipality for using this sweeper. They purchased equipment in good faith to clear snow efficiently and quickly, managing liability and costs. They didn't anticipate plastic litter, nor having to constantly maintain the sweeper (after every 20 hours of use, according to Edmonton city officials). Why not hold manufacturers accountable?

Minister McIver says each municipality purchases equipment independently. What if they "worked collaboratively" and demanded better value for citizens' money? And while they're at it, how about buying equipment in fleets? Better equipment, less cost. Return to the way snow removal was done before the invention of this "efficient" plastic-spewing machine—a few short years ago, in our case.

The manufacturer's website states: "The quick-change rotor design makes bristle replacement quick and easy. By simply removing two bolts, the entire rotor is released." And what happens to the plastic still attached to the bar, when it is no longer useful, having shed most of its sticks? What about the damage caused by sticks remaining in the environment, year upon year? The microplastics in human breastmilk? They're not on the balance sheet.

According to former governor of the Bank of Canada Mark Carney, we need to regulate global finance and force business leaders to stop treating the natural world as an externality; that is, as a cost not priced into the final goods. The price of this broom may be within reach for tax-strapped municipalities, but the overall cost, in my opinion, is too high.

Someone once told me I'm "passionate" about this issue. I'm not. I'd rather spend my walks looking up at the sky or viewing ducks than looking down. I am passionate about the environment. The proliferation of plastic litter breaks my heart.

The problem is bigger than Alberta. Visit any European city and wade through trash and dog waste. Organizations such as 4ocean have collected 25 million pounds of ocean trash (much of it plastic) in five years. And this is a drop in the bucket.

I can't ignore plastic litter. After I've "plogged" (collected plastic litter while "jogging"), my neighbourhood street gutters and pathways remain mostly clean, including sticks, all summer, except when the out-of-towners toss their garbage. After 10 years living here I can safely say, "Nantonites don't litter." The snow machine creates most of our litter, no question.

A photo of a turtle's nose pierced by a plastic straw led to "the last straw" campaign. The items are now subject to Canada's federal single-use plastics ban. As for snow-clearing bristles, "The quality of sidewalk and street cleaning for public safety, in line with policy, is a priority over the cold-weather brittleness of a particular wafer brush," my town's CAO told the local paper. What will it take to stop the senseless littering by a machine designed to clear snow that breaks bylaws prohibiting littering?

Council's final decision after two presentations: "At present, Council has no plans to discontinue the use of these brushes... nor press private-sector operators to do anything similar... the Town will try and address this discarding issue by... experimental replacement of pure polypropylene wafer brushes with blended wire and polypropylene brushes... working toward a decision if the street sweeper... can be replaced with either a conventional snowblower or debris blower attachment for conditions that dip below -25°C [when polypropylene bristles more readily snap or shatter]... Thank you again..."

So, that's it. My friends, my husband and I will continue to pick up sticks, which will end up in the landfill, not the water. We only find a fraction of them. The machine will expire before we do. And it will be replaced. Because, you know, liability, efficiency, labour costs. My heart snaps, like a cold plastic bristle. Yours too? ■

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