
DATE: October 11, 2019

SUBJECT: IMPACTS OF PLASTIC BAG REGULATION

INTRODUCTION:

A waste characterization study was conducted for the Regional District of Fraser Fort George in 2018, which revealed that plastic waste accounted for 16.88% of the total waste disposed of at the Foothills Boulevard Regional Landfill. This was the second largest primary category after compostable organics which represented 30.21% of the waste stream (TRI Environmental Consulting, 2018). The study also broke down the waste distribution from single-family residences by analyzing waste from the City of Prince George's curbside collection program, which identified that plastic waste accounts for 18.08% of the waste stream (TRI Environmental Consulting, 2018). It is estimated that single-use plastic checkout bags account for 1-2% of waste that makes it to the landfill, and that 200 bags are used per capita annually (Globe and Mail, 2012). Using this estimate, Prince George's population of 74,003 utilizes 14.8 million single-use plastic checkout bags annually.

The Government of Canada announced on June 10, 2019 that it would be taking steps to reduce plastic waste which includes a ban on single-use plastics, including plastic bags, straws, cutlery, plates and stir sticks, as early as 2021 (Government of Canada, 2019). The federal government has stated that of the plastic used in Canada, less than 10 per cent is recycled and that in Canada up to 15 billion single use plastic checkout bags are used annually (Government of Canada, 2019). Ninety percent of plastics are incinerated, or end up in landfills, parks and waterbodies (Khambalia, S., 2018). Approximately 50% of plastic produced each year "is used to make disposable items of packaging or other short-lived products that are disposed of within a year of manufacture" (Hopewell, J., et al, 2009).

These statistics signal that a change in plastic management is needed, as the recycling stream for plastics has not been successful as noted above. There are currently no rules in Canada requiring or encouraging the use of recycled plastics (Khambalia, S., 2018). In addition, plastics that end up in the recycling blue bins are not easily recyclable, or not recyclable at all because of "increasingly complex mixes of material in plastic packaging" (CBC Radio, 2019). Over 25% of waste that goes in recycling bins is considered non-recyclable due to contamination – meaning it typically has food residue on it (CBC Radio, 2019). Putting plastic bags in curbside recycling bins can actually contaminate the entire truck-load, rendering the whole load as non-recyclable due to plastic bags being unrecyclable through this waste-stream (City of Nanaimo, n.d.). Plastic bags can be dropped off at local Recycle BC depots, but are not picked up through the curbside recycling program. This can result in an inconvenience factor for residents meaning plastic bags can end up in the landfill instead.



Figure 1: Pollution Prevention Hierarchy (City of Squamish).

A different approach is needed by consumers which should include a focus on reduction in plastic waste at the front end and public education rather than recycling and disposal, as emphasized in the pollution prevention hierarchy (Figure 1). Regulating single use plastic checkout bags will assist in mitigating litter and its impacts on local waterways and wildlife plus reduce the accumulation of plastic bags in the landfill. Plastics never fully break down, but instead degrade into smaller pieces creating more pieces of litter that pose impacts to environmental and human health as microplastics. Providing free single use plastic checkout bags is considered to be the “main driver behind excessive use” of single-use plastic bags therefore requiring a fee for plastic checkout bags is considered a promising first step in decreasing single-use plastic bag usage (City of Victoria, 2016).

DISCUSSION:

Potential Impacts of Regulating Single-Use Checkout Bags

There are several potential benefits related to regulating single-use plastic checkout bags, which include:

- Reduction in likelihood and severity of impacts to drainage system infrastructure, such as plastics clogging catchbasins;
- Reduction of plastic litter in public parkspace, waterways and other terrestrial environments;
- Reduction in amount of plastic disposed at landfill;
- Improvement in quality of curbside collected recyclables by reducing opportunities for contamination;
- Transformation in consumer behaviors relating to convenience and single-use plastics; and,
- Business opportunities to develop reusable bags using recycled materials locally.

Following discussions with other municipalities that have implemented a bylaw regulating plastic bags, or are in the process of doing so, it is anticipated that negative concerns may be raised by various stakeholders. Some of these concerns include:

- People now have to purchase plastic bags for lining indoor garbage cans, cleaning up pet waste, carrying wet, dirty or unsanitary items (ie. used diapers);
- Public health concerns regarding unwashed reusable bags, spills in bags from meat packaging;
- Theft associated with patrons concealing items in reusable bags;
- Reductions in “impulse or spur-of-the-moment shopping” when a patron doesn’t have their bags with them;
- People forgetting their bags and having to purchase additional reusable bags, resulting in more reusable bags ending up in the landfill;
- Representatives from the plastic industry have claimed that any type of ban “removes customer choice”; and,

- Some alternative bag options may pose accessibility challenges (ie. paper bags do not typically have handles).

However, several of these concerns could be easily rectified through a public education campaign or reminding consumers to remember their bags, or keep them in a place they won't forget and provide information on how to clean reusable bags. The City of Victoria has an extensive "BYO Bag" program that includes tip sheets for grocery stores, business owners, retail staff and the general public and stickers to put on your door at home or in your vehicle to remember your reusable bags. The Regional Municipality of Wood Buffalo (RMWB) also has a "BYO Bag" program to encourage residents to "get into the BYO-Bag habit" that includes an informative questions and answers pamphlet. Both municipalities have held several open houses and attended community events to promote the bylaw. Some businesses have proposed a "Leave a bag – take a bag" program to mitigate consumers from having to purchase additional bags when they've forgotten their own.

Environmental Implications of Retail Checkout Bags

Regulating single-use plastic checkout bags is not without criticism, as concerns have been raised about consumer convenience and "unintended negative environmental consequences caused by shifts to less environmentally friendly alternative bag types" (City of Victoria, 2016).

When investigating the environmental impacts of retail check-out bags it is important to consider the life cycle impacts of all bag options, what they are made of, how frequently they are used and ultimately how they are disposed of (ie. landfill, littering, recycling). Commonly used types of retail bags include:

- Single use plastic bags made from High Density Polyethylene (HDPE);
- Paper bags;
- Reusable plastic bags made from Low Density Polyethylene (LDPE);
- Reusable Non Woven Polypropylene (NWPP) bags;
- Reusable cotton bags; and,
- Biodegradable/degradable plastic bags.

When comparing the production of reusable bags and paper bags to single use plastic checkout bags, more energy and water is required to produce the reusable and paper bags. However, the environmental impacts associated with the production of reusable bags are reduced over its life cycle compared to single use plastic checkout bags based on the number of times the reusable bag is used. A study performed by PriceWaterhouseCooper (2004) demonstrated that after using a reusable LDPE bag four times the bag had less of an environmental impact than single-use plastic bags. In addition, of the options provided above, single-use plastic checkout bags are the most likely to be littered given their mobility (ie. ability to be mobilized by wind and water). Therefore, when evaluating the local impact of retail bags – single use plastic checkout bags have the greatest environmental impact.

CleanBC Consultation Period

Following the overturn of the City of Victoria's *Checkout Bag Regulation Bylaw*, the Provincial government enacted a public feedback campaign on regulating single-use packaging, reducing single-use plastics in landfills and waterways by "requiring producers to take responsibility for more plastic products," expanding the beverage deposit-refund program to cover all beverage containers and reducing plastic waste overall (Province of BC, 2019). The consultation period for the CleanBC Plastics Action Plan ended on September 30th 2019.

Several BC municipalities provided feedback in a collaborative letter to the provincial government requesting amendments to the *Recycling Regulation* of the *Environmental Management Act* to address plastic waste which focused on:

- i) Reduction over recycling;
- ii) Clarifying the authority of local governments to regulate single-use items;

- iii) Regulating single-use plastics through a stepped approach;
- iv) Improving Extended Producer Responsibilities to include redesign, and reduction strategies; and,
- v) Ensuring that all stakeholders are consulted.

The Regional District of Fraser Fort George provided comments on the CleanBC Plastics Action Plan on behalf of the Environment and Parks Standing Committee and signed the collaborative letter to the provincial government. The joint local government submission letter submitted to the Minister of Environment is provided in Appendix C.