



November 8, 2017

Mr. Fraser Work, Director  
Engineering and Public Works  
City of Victoria  
City Hall  
1 Centennial Square  
Victoria BC V8W 1P6

Re: draft Checkout Bag Regulation Bylaw

We are pleased to offer the following comments on the City of Victoria's draft checkout bag regulation bylaw, in response to the invitation of Mayor and Council for public comment.

First, we congratulate the City on taking this important step to regulate the use of unnecessary plastics. Living Oceans has been involved in removing plastic marine debris from sensitive foreshore habitats for nearly a decade and we are gravely concerned by the threat posed to marine life, including commercially important species that sustain BC's coastal communities, by lost or discarded plastics. In our view, any steps that can be taken to reduce the proliferation of unnecessary plastics will be of lasting value to the marine environment.

We would like to address the argument always advanced by the plastics industry when it faces a ban on plastics of any sort: it's the fault of the people who lose or discard the plastic that it becomes an environmental hazard; educating them to use recycling is the preferred answer. This is clearly not the solution to the problem from the viewpoint of municipalities that have to deal with the volume of plastic entering landfills; and persistent non-compliance with recycling options after so many years of public education suggests that further expenditure on education will have limited returns. In the meantime, there are often devastating consequences to the release of plastic bags into the environment, as we describe in more detail below. We believe this industry argument to be particularly fallacious where there are easily accessed alternatives to the particular plastic in question, as there are in the case of checkout bags.

Plastic checkout bags are a deadly and difficult to control pollutant in the environment. They are easily lost, to wind or moving water, and wherever that happens—whether on land or at sea—their light weight and structure mean that they are likely to end up being washed into the ocean. In the ocean, they are most often to be found moving beneath the surface on the

HEAD OFFICE  
Box 320  
Sointula, BC V0N 3E0  
Tel 250 973 6580  
[www.livingoceans.org](http://www.livingoceans.org)

REGIONAL OFFICE  
Suite 2000 – 355 Burrard Street  
Vancouver, BC V6C 2G8  
Tel 604 696 5044  
[www.livingoceans.org](http://www.livingoceans.org)

current, where they are readily consumed by marine mammals, either because they are mistaken for prey or mixed in among prey species and consumed inadvertently.

Plastics bags are one of the most frequently found items in the guts of whales undergoing necropsy. They can cause serious blockages of the digestive system. In February of this year, a whale was euthanized after it beached near Bergen, Norway, because it was obviously ill and believed to be in pain. Researchers recovered 30 plastic bags from its stomach and reported the remainder of the intestinal tract virtually devoid of food; the plastic completely filled the stomach. The whale's blubber layer was extremely thin, suggesting the animal was suffering from starvation. These findings are not isolated, as other necropsies of marine mammals have made similar findings.

Depending on their residence time in ocean waters, plastics may carry with them a disproportionately high dose of persistent organic pollutants (POPs). The US National Oceanic and Atmospheric Administration (NOAA) reports that tests on marine plastics disclosed levels of POPs ranging from 100,000 to 1 million times that of the seawater in which they were found. POPs are implicated in diseases of the neurological system and known to impair reproduction. Pacific Northwest orca whales have been found to have extraordinarily high levels of POPs, which may be contributing to their struggle to maintain the viability of their population.

While some of the toxic load borne by whales is no doubt bioaccumulated through contaminated prey, exceptionally high doses may be encountered with marine plastic consumption.

Plastic is a marvelous invention, but its durability and chemistry mean that it is imperative to ensure that it is properly used and controlled. Whether considered from the viewpoint of impacts on the marine environment, on the climate or on other, societal costs, single-use disposable plastics are the worst application of this wonderful technology that mankind has invented to date. Any step to control its proliferation is, in our submission, a step in the right direction.

Yours truly,

A handwritten signature in blue ink, appearing to read 'K. Wristen', with a stylized flourish at the end.

Karen G. Wristen  
Executive Director