

October 2, 2019

**Re: Pre-consumer plastic production pellets (nurdles) discharged into British Columbia waterways by plastic manufacturing facilities**

VICTORIA, BC—This brief outlines three years of research into pre-consumer plastic production pellet spills happening at plastics manufacturing industry sites along the multiple arms of the Fraser River. The plastics manufacturing industry uses plastic polymer pellets to manufacture bags, bottles, containers, packaging, and other plastic products for commercial and industrial uses.

We have found direct evidence that plastic pellets are entering the marine environment from plastics manufacturers' production facilities in the Lower Mainland, particularly around the Fraser River. We have identified and mapped locations around Vancouver Island, the Gulf Islands, San Juan Islands, Sunshine Coast, and the Lower Mainland where pre-consumer plastic pellets are washing up on waterfronts. (See attached map)

We urge the Province of BC to monitor plastic pellet spills at plastic manufacturing facilities, improve the *Environmental Management Act* to specifically address industrial environmental pollution of plastic pellets, and enforce environmental regulations regarding plastic pellet spills into our waterways.

The plastics industry Material Safety Data Sheets (MSDSs) for polymer resin pellets and the plastics industry *Operation Clean Sweep* (OCS) Manual both state:

“pellets may accumulate in the digestive systems of birds and aquatic life, causing injury and possible death due to starvation...and to “prevent entry into waterways, sewers...”

Thousands of academic university published articles and studies attest to the problems of plastic pellets in the environment.

A team of researchers at the University of Victoria and working with the Surfrider Foundation has:

- researched, monitored and quantified plastic pellets washing up on BC's coasts; (see map hereafter)
- monitored and quantified pellets washing up on the Fraser River; (see map hereafter)
- found hundreds of thousands of pellets at 12 (thus far) Metro Vancouver plastic industry sites, parking lots, rail sidings, street drains (see photos hereafter)
- found pellets in Metro Vancouver waterways leading to the Fraser River near plastic industry sites (see photos)

**Request**

We respectfully request that the British Columbia Ministry of Environment & Climate Change Strategy and related agencies monitor and stop the plastic manufacturing industry from releasing plastic polymer pellets into the environment according to BC's *Environmental Management Act* and Regulations [and the *Canadian Environmental Protection Act*.]

**Solution**

From what we have observed, the primary entry point of plastic pellets into our waterways is via the municipal storm drain system. Installing storm drain covers (the kind required at construction sites) at each manufacturing facility would be a good start, so long as they are maintained.

**Background / Context:**

Pre-consumer plastic polymer pellets (nurdles) made from High Density PolyEthylene (HDPE), Low Density PolyEthylene (LDPE), and Polypropylene (PP) utilised to manufacture plastic products such as bags, bottles, containers, packaging, etc. are washing up on BC's coasts, waterfronts and Canada's National Parks.



**Gulf Islands National Park Reserve, Mayne Island, July 2018**



**Sargeant Bay Provincial Park, August 2019**



**Pacific Rim National Park, Florencia Bay  
October 2018**



**Willows Beach, Oak Bay, July 2016**

The Plastics Industry Material Safety Data Sheets (MSDSs) for polymer resin pellets, and the plastics industry *Operation Clean Sweep* (OCS) *Manual* both state:

“pellets may accumulate in the digestive systems of birds and aquatic life, causing injury and possible death due to starvation...and to “prevent entry into waterways, sewers...”

**Academic literature** concurs:

The unaccountability case of plastic pellet pollution.

Karlsson, T.M. et al. (2018). *Marine Pollution Bulletin* 129(1), 52-60.

Threat of plastic pollution to seabirds is global, pervasive, and increasing.

Wilcox, C. et al. (2015). *Proceedings of the National Academy of Sciences* 112(38)

The impact of debris on marine life.

Gall & Thompson (2015). *Marine Pollution Bulletin* 92(1-2)

Synthetic polymers in the marine environment: A rapidly increasing, long-term threat.

Moore, C.J. (2008). *Environmental Research* 108(2), 131-139.

Plastic resin pellets as a transport medium for toxic chemicals in the marine environment.

Mato, Y. et al. (2001). *Environmental Science & Technology* 35(2), 318-324.

**News Sources**

<https://vancouverisland.ctvnews.ca/b-c-librarian-says-nurdles-washing-up-on-beaches-is-cause-for-concern-1.3311057>

<https://www.iheartradio.ca/cfax-1070/news/nurdle-alert-1.2442422>

<https://qz.com/1689529/nurdles-are-the-biggest-pollution-disaster-youve-never-heard-of/>

Various community groups have noticed pellets for several years on BC's coasts but since 2016 a team at the University of Victoria, along with Victoria community organisations and schools, have been geo-locating, monitoring, and quantifying plastic pellets washing up on BC's coasts; see map at link below.



<http://maps.library.uvic.ca/NurdlesSwBCdraft.html>

### **Where are the plastic pellets coming from?**

In 2017 several media outlets asked “where are the nurdles coming from?” At that time we did not know yet.

Since August 2018 onwards, with repeated visits at different times of the months, we have now found plastic pellets at 12 Metro Vancouver manufacturing and distributors’ parking lots, rail sidings, street drains, and nearby waterways leading to the Fraser River.



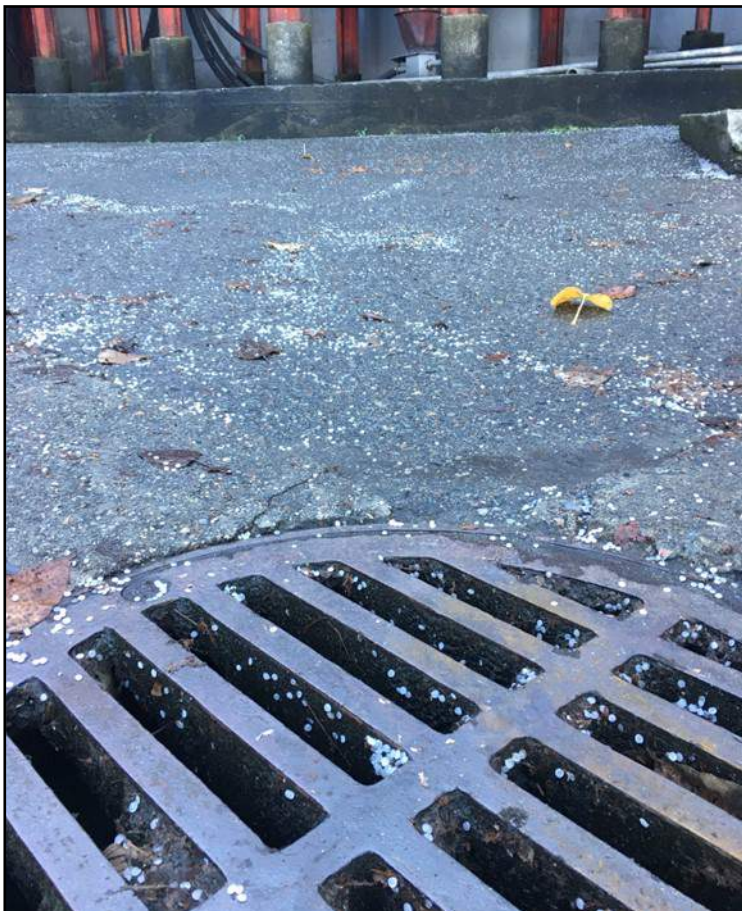
**Port Coquitlam, November 2018**



**Richmond, December 2018**



Delta, September 2019



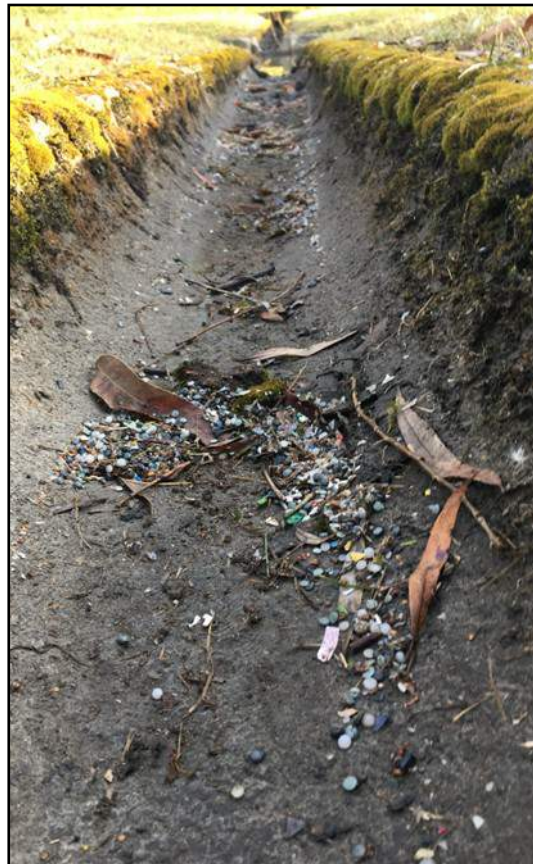
Delta, November 2018



Richmond, May 2019



**Delta, September 2019**



**Delta, October 2018**

### Industry lack of Action

The plastics industry is not monitoring or enforcing their own voluntary guidelines.

At least four companies in Metro Vancouver that are releasing / spilling nurdles are members of *Operation Clean Sweep (OCS)* that states:

“Whether handled in an Iowa plant or a seaside facility, pellets get to storm drains that lead to oceans — causing eyesores and a threat to marine life.”

*OCS Manual* also states:

**None of the guidelines are intended as a mandate. [bold in OCS Manual]**

Compliance with state and local regulations are mandatory.

These guidelines may help you to achieve compliance and avoid penalties.

All of the above photographs are on the outside of the plastics manufacturers sites; what is going on in the inside?  
We have heard stories from [former] employees that hoses are utilised to wash the pellets off machinery.

At minimum, the plastics industry must daily sweep their premises, install and maintain drain protection as pictured below...



Calgary, August 2019



...and not neglect the drain protections.

Calgary, Aug2019

Ultimately, we call upon the BC provincial government to enforce the *Environmental Management Act* and accompanying Regulations and to write plastic pellet regulations such as California’s Assembly Bill No. 258 Chapter 735: An act to add Chapter 5.2 to Division 7 of the Water Code.