

Stemming the tide

Putting an end to plastic pellet pollution

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Executive Summary

Plastic pollution has become a well-publicised issue in recent years. This report shines a spotlight on a type of pollution that has been largely overlooked, despite having practical solutions that can be easily put in place: plastic pellets.

Some of the effects of plastic pollution – including pellet pollution – are well known, including its unsightly appearance on beaches around the world and the harm it causes to wildlife that eats it. Other impacts, such as its potential toxicity in marine food chains, are less well known but no less important.

Public concern about plastics generally has been palpable, and many governments and companies have launched initiatives to reduce this type of pollution in our ocean. People around the world are striving to reduce their own plastic footprint by cutting down on their use of carrier bags, straws and other single-use items, yet the insidious problem of pellet pollution from the plastics supply chain is going largely unaddressed.



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What are pellets and why should we be worried about them?

Almost all of the plastic products we use – from bottles to medical supplies to white goods such as fridges – are made from pellets¹. These lentil-sized microplastics are melted together and shaped to create products, with one tonne of ‘raw’ plastic feedstock composed of around 50 million pellets.

Poor handling, packaging and transport practices across the entire lifecycle of plastic lead to spills on land and at sea, which results in billions of pellets pouring into the ocean every year, making them the second largest direct source of marine microplastic pollution.

Once in the ocean, pellets are known or suspected to be harming species across the taxonomic spectrum from seabirds to sea turtles to mammals such as seals. In areas that are particularly badly affected, pellets have even been seen smothering sensitive marine habitats such as seagrass meadows.

Pellets are inherently hazardous due to the toxic additives they contain. They also act like a sponge, adsorbing and accumulating bacteria and persistent environmental pollutants that are present in sea water. When pellets come into contact with – or are eaten by – marine animals, they effectively act like a poisoned pill for marine life as these toxins and bacteria can be transferred to the animal (and potentially on to humans, if affected seafood is eaten).

This chronic pollution problem is exacerbated by acute pellet losses that can occur during maritime disasters, the most infamous of which saw approximately 84 billion pellets spilled in a single event when the container ship MV X-Press Pearl caught fire and sank. Shortly afterwards, pellets began washing up

on beaches in western Sri Lanka, in some cases accumulating in piles two metres high, wreaking serious economic, social and environmental damage.

This was not an isolated incident, however, and – with 90% of global trade moving around the world by sea, and with both the size and number of container ships growing steadily – it seems only a matter of time before we witness further catastrophic spills at sea unless action is taken.

It’s time to act: end pellet pollution with mandatory measures

As this report details, voluntary efforts have not succeeded in eliminating land-based pellet loss. Perhaps worse, there has been little attention on the need to prevent pellet loss at sea. The result is that – right across the plastics supply chain – poor practice is resulting in an immense pollution problem that jeopardises wildlife, ecosystems, livelihoods and human health.

Policymakers can – and need to – act now to have an immediate, positive impact by setting mandatory requirements for all pellet handlers, ensuring pellet loss prevention extends beyond those voluntarily choosing best practice.

Fauna & Flora International is calling for a series of complementary measures, based on a true supply chain approach, to bring about a systemic change in the way pellets are handled and transported on land and at sea, and ultimately achieve the goal of zero pellet loss. These are summarised here, with more details available in the full report.

¹The word ‘pellets’ (or ‘nurdles’) is used as a catch-all term to refer to the various forms that plastic feedstock can take, including flakes, powders and granules.

A HOLISTIC SUPPLY CHAIN APPROACH ACROSS LAND AND SEA

1

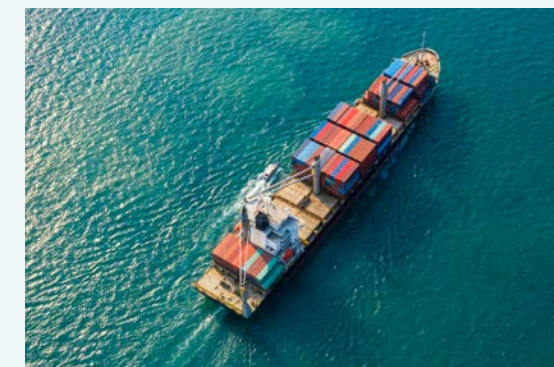
Regulations to tackle pellet pollution from land:

- **All companies** that handle plastic pellets must be **legally required** to provide independent, third-party verification that pellet loss prevention measures are implemented, maintained and monitored for effectiveness at **every stage of the supply chain**.
- Standards and certification schemes must **meet minimum requirements established in legislation**.

2

Improved packaging and labelling of pellets for transport:

- **Legislation should stipulate the use of improved packaging, labelling and communication throughout the supply chain** to reduce risk of chronic and acute pellet loss on land and at sea.



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Regulations to prevent sea-based sources of pellet pollution:

- The International Maritime Organization (IMO) must **legally classify pellets as marine pollutants** in recognition of their persistent, polluting nature and the harm they cause to marine life and ecosystems, in order to trigger changes in handling and stowage on ships.
- **National administrations**, under the auspices of the IMO, **must work together to develop standardised disaster response protocols** to aid containment and clean-up of future off-shore, near-shore or coastal shipping disasters that result in acute losses of plastic pellets.
- **Clear protocols or guidance related to liability and compensation claims** in the event of accidental loss **must be established**.

4

Additional measures that should be explored by the IMO:

- The introduction of **minimum requirements** for the **maintenance of containers that house pellets**.
- The introduction of **legal limits on the volume of loose pellets being transported within containers**.



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Around the world, people are clamouring for solutions to stop plastic pollution in the ocean. This report sets out a clear pathway to drastically reduce one of the most significant and insidious types of microplastic pollution and ensure that companies across the plastics supply chain are accountable to the public.

What's in the report?

- An introduction to pellet pollution: what it is and why it's a problem, including evidence of harm to wildlife (**Chapter 1**)
- How and why pellet pollution occurs on land (**Chapter 2**) and existing voluntary attempts to prevent land-based losses (**Chapter 3**)
- The missing link: pellet loss at sea, including recent maritime disasters and existing regulatory mechanisms that could be harnessed to tackle the problem (**Chapter 4**)
- The case for a complementary set of regulatory measures that will improve practices on land and at sea, and so bring about the systemic change needed to eliminate pellet pollution (**Chapter 5**)

Who is this report for?

This report will be useful for all those who want to have a better understanding of what pellets are, why they are a problem, and what has – and should – be done to effectively eliminate this source of microplastic pollution across the entire plastics supply chain.

This report will also be a useful reference tool for policymakers who are considering the most effective interventions to stop pellet pollution on a national, regional and international basis, not least as the world comes together to consider regulatory action by the IMO and, in parallel, negotiate solutions to the global plastic pollution crisis under the auspices of the United Nations Global Plastic Treaty.

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