



## Nurdling 9 to 5 – what a way to make a difference!

***Over half a million plastic nurdles collected during an 8 hour beach clean on the Firth of Forth.***

**16<sup>th</sup> October 2017** An estimated 540,000 nurdles were collected from a small section of beach on the Firth of Forth. Volunteers spent 8 hours collecting these plastic pellets, scooping them up with dustpans, tweezers and sieves. Despite all this, the difference to the beach was barely noticeable at the end of the day with pellets still making up a major proportion of the beach sediment.

Nurdles are lentil-sized plastic pellets. They are the raw material melted down to make virtually all our plastic products – from bin bags to bottle tops. The UK processes around 3 million tonnes of plastics a year<sup>1</sup>, almost all in nurdle form. These pellets are easily spilled during handling, and if not cleaned up, they can end up down drains, in waterways and eventually at sea.

In the marine environment nurdles can be mistaken for food by animals such as fish and seabirds. Like other microplastic, they can disturb normal feeding and affect growth and nutrition. Nurdles can concentrate persistent organic pollutants to their surface from surrounding sea water, and release these potentially toxic chemicals into animals that eat them or feed near them. Although not yet fully understood, there are emerging human health concerns relating to microplastics<sup>2</sup>.

The beach clean was organised by environmental charity Fidora ([The Great Nurdle Hunt](#)), alongside [Marine Conservation Society](#) Scotland. “We usually ask volunteers to simply estimate how many pellets they see on the beach, but this becomes difficult when there are such large quantities” says Fidora’s project officer Madeleine Berg. “With the ‘Nurdling 9-5’ event, we wanted to get a better idea of how many pellets were on a highly polluted beach. Although we collected nurdles all day, we barely scratched the surface. From these estimates, there must be many millions on this small stretch of beach alone.” Sadly, this beach is not unique. Others have been shown to have similar pellet problems. For example, estimates for Limekilns beach on the Fife coast vary between 200 000 to over 2 million pellets on a 110m stretch depending on the year<sup>3</sup>. This problem is by no means limited to the shores of the Forth however – a nationwide survey earlier this year revealed that 73% of beaches searched had nurdles present<sup>4</sup>.

Sarah Archer, manager of Fidora’s pellet loss project, says “removing all pellets from beaches is a near-impossible task, instead we focus on stopping these pellets escaping in the first place.” Fidora uses the information gathered by volunteers for The Great Nurdle Hunt to raise awareness of the problem directly with industry and decision makers. Simple best practice measures can mean spills are prevented and cleaned up properly. However, currently no checks are in place to make sure these measures are applied effectively. “We want to ensure the positive changes made by parts of industry are now applied right across the supply-chain” says Archer. “The plastics supply chain is complex, but legislation would make sure all companies handling plastic pellets do so responsibly, and that this source of microplastic pollution is eliminated.”

The MSP for the Falkirk East constituency, Angus MacDonald, joined Fidora for a tour of the beach in 2016, and members of his constituency team were able to join the clean-up this year. He states “The work Fidora

<sup>1</sup> 2015 figure. British Plastics Federation [About the British Plastics Industry](#) [Website, accessed 09/10/17]

<sup>2</sup> Wright and Kelly (2017) [Plastic and Human Health: A Micro Issue?](#) *Environ Sci Technol.* 2017 Jun 20;51(12):6634-6647 ; [Microplastics in the sea a growing threat to human health](#), United Nations warns. *Independent*, Saturday 21 May 2016

<sup>3</sup> Christine Switzer BSc MSc PhD, Lecturer, Civil & Environmental Engineering, Strathclyde University. Pers. comm.

<sup>4</sup> The Great Winter Nurdle Hunt, February 2017. Results available [here](#).

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has done to date to raise awareness in industry and the wider public has to be commended. The Great Nurdle Hunts have helped bring the issue to the public's attention. I'm pleased that industry representatives in my Falkirk East constituency have acknowledged the issue, however it is clear that legislation must be seriously considered to ensure the handling of plastic pellets at all stages is properly monitored and controlled."

## NOTES TO EDITORS

This special 'Nurdling 9-5' event was organised by Fidra, who run The Great Nurdle Hunt, a citizen science project that aims to map out the presence of these pellets on beaches across Scotland, the UK and worldwide. Fidra were supported by staff and volunteers from The Marine Conservation Society, The Conservation Volunteers, Forth Valley College as well as local residents and community council members.

The beach clean took place on the 8<sup>th</sup> September 2017, on the western edge of Kinneil nature reserve in Bo'ness on the Firth of Forth. Nurdles have been produced, transported and processed in the surrounding area for decades. The variety of nurdles found on this beach is presumed to reflect many years of manufacture and loss. While the Firth of Forth is a known hot-spot for pellet pollution – for example, North Queensferry beach was recently highlighted by a series of [shocking photographs](#)<sup>5</sup> - this problem is by no means limited to the shores of the Forth. A nationwide survey earlier this year revealed that 73% of beaches searched had nurdles present, from Shetland to the Isles of Scilly, and pellet pollution is present on beaches globally<sup>6</sup>. The Great Nurdle Hunt [map](#) reveals pellet finds reported from Australia, the USA, middle East, and even the isolated, uninhabited Henderson Island in the Pacific Ocean.

**Fidra** is a charity based in East Lothian, Scotland. We seek to find ways to engage local concerns over current and emerging environmental issues, and use this to contribute to wider dialogue at national and international levels. Once concerns have been identified, we use scientific evidence and research best practice to establish how best to influence positive environmental change. [www.fidra.org.uk](http://www.fidra.org.uk)

**The Marine Conservation Society (MCS)** is the UK charity dedicated to protecting our seas, shores and wildlife. MCS campaigns for clean seas and beaches, sustainable fisheries, and protection of marine life. Through education, community involvement and collaboration, MCS raises awareness of the many threats that face our seas and promotes individual, industry and government action to protect the marine environment. MCS provides information and guidance on many aspects of marine conservation and produces the annual Good Beach Guide and the Good Fish Guide as well as involving thousands of volunteers in projects and surveys such as MCS Beachwatch. MCS has run a dedicated Scotland marine conservation programme from its office established in Edinburgh in 2000 helping to secure, among other achievements, a range of positive outcomes on marine litter from the Scottish Government including a marine litter strategy, a carrier bag charge and, most recently, a commitment to introduce a Deposit Return System in Scotland. [www.mcsuk.org](http://www.mcsuk.org)

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<sup>5</sup> Nurdle environmental menace spotted on Forth coastline. The Courier, 18<sup>th</sup> August, 2017.

<sup>6</sup> E.g. pellets are used as part of a global monitoring programme for Persistent Organic Pollutants: <http://www.pelletwatch.org/>.

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## FOR FURTHER INFORMATION, PLEASE CONTACT

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## PHOTOGRAPHY & DIGITAL MEDIA

**FILM:** Our beach clean was documented by a film-maker, who has released a 2minute introductory clip online. If used, please credit to **Melanie Pyne, Jamie Cameron and Lyra Media.**

It is available on the following link: <https://vimeo.com/236558746>

**PHOTOGRAPHY:** Please see a selection of photography of the beach clean below. Click [HERE](#) for access to our drop-box folder, which contains high-resolution copies of these images. Please check individual images for photographer details.

### **Nurdling 9 to 5 – on the beach:**



*Volunteers, including staff from Angus MacDonald MSP's constituency office, collecting nudrles from the rocky shoreline – photo credit **Catherine Gemmell.***



*Pellets make up a significant proportion of beach sediment - photo credits **Catherine Gemmell***

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More pictures of volunteers collecting nudles. Photo credits, **Melanie Pyne**

### Nurdling 9 to 5 – the final collection:



(L) Nurdle close-up. Photo credit: **Melanie Pyne** (R) The final nudle collection, photo credit: **Bryce Powrie**



(L) The final nudle collection on display - photo credit: **Bryce Powrie**



(R) Madeleine Berg with the final nudle collection, photo credit: **Bryce Powrie**