Marine litter in the Clyde

Natalie Welden
natalie.welden@open.ac.uk
@NatalieACWelden
A problem of scale
A surfeit of sources

- Clyde and Loch catchments
- Local Tourism and Industry
- Shipping
- Population
The Clyde-Collector

- Plastic buoyancy
- Salinity
- Water energy
- Water exchange
- Morphology
Plastics at Millport

- Environmental Sampling
- Aquarium Studies
- Microbiology
- SEM Analysis
- MSc Projects


Information Gaps and Gains

*Figure:* Studies of biota interactions with microplastic in the laboratory and field.

Information Gaps and Gains

Figure: Publication trend of studies investigating biota interactions with microplastics until 30th June 2016.

Figure: Laboratory and field studies investigating microplastic interactions with biota separated by Phyla. The value in parentheses above each bar indicates the number of species studied within the taxa. Total number of studies included in this review = 120.
Microplastics and invertebrates

“By examining the feeding and physiology of plastic fed *Nephrops*, we have shown that the ingestion of plastic has an effect in line with starvation”

Microplastics and invertebrates

“The complex structures of the gastric mill result in the retention of plastic fibres”

Innovation and the Open University

“By developing fully degradable plastics reduces the impact of future plastic releases on the environment”
Citizen science and the synthetic strandline

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@NatalieACWelden
Clyde Nurdle Quest

- Repeated measures
- Same tidal state
- Key sites

www.nurdlehunt.org.uk
Where are the nurdles?

Sites at which nurdles were found (%)

Average number of nurdles on beaches sampled throughout the whole period

Average number of nurdles on all sampled beaches sampled throughout the whole period
How many were there?

Average of Nurdle Class Over Time per Hour

Average number of nurdles on beaches sampled throughout the whole period

Average number of nurdles on all sampled beaches sampled throughout the whole period
Does aspect affect nurdle abundance?

Mean Nurdle Class on Beaches of Differing Aspect

Average number of nurdles on all sampled beaches sampled throughout the whole period
mistaken for food by many animals, nurdles and the toxins coating them can enter the food chain