

Marine

Litter Watch

Newsletter
Issue 17 - Summer 2024



Department of
**Agriculture, Environment
and Rural Affairs**
www.daera-ni.gov.uk

An Roinn
**Talmhaíochta, Comhshaoil
agus Gnóthaí Tuaithe**

Depairtment o'
**Fairmin, Environment
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Sustainability at the heart of a
living, working, active landscape
valued by everyone.



Hello and welcome to the Summer 2024 edition of Marine Litter Watch

by Jenny Benham, Marine and Fisheries Division, DAERA.

Welcome to the Summer 2024 Marine Litter Watch Newsletter, where you can find information and updates about what is currently happening in the world of marine litter.

This edition is all about scale. How tiny items have big impacts; how little actions repeated can make large differences.

Thanks to everyone who has contributed to this edition by providing inspiration, articles, news items and photographs.

We are always happy to receive any updates, suggestions or feedback about what you might like to see in future publications. You can get in touch by emailing the team at marinelitter@daera-ni.gov.uk

Article Summary

Michael Bolster, Assistant Warden at Portrush Coastal Zone explains how marine litter affects the work in the PCZ.

Environment tutor and beachcomber Aileen McClenaghan shares how marine litter can tell a story through time.

Staff from The Causeway Coast and Glens Heritage Trust introduce their biodiversity resource pack for schools including a marine-themed section.

And Finally, DAERA placement student Jack Alcorn, explains some interesting microbead findings.



Image - Jenny Benham.

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News Round Up!

Mermaid's Tears



Waste Stories project, University of Glasgow.

Dr Anna Wilson of the University of Glasgow is project lead for Waste Stories. The project uses the affective power of story-telling to try to change people's relationships with waste and the resources that end up in the waste stream. The Waste Stories has spawned a daughter project called Future Archaeologies of Marine Litter. Whilst doing fieldwork for this project at the aptly named "Singing Sands" beach pictured, Dr Wilson's colleague George Robertson came across the story of a spillage of plastic pellets in France. These tiny pieces of plastic were nick-named "Mermaid's Tears" (see full story [here](#)). George was inspired to create the following poem:

Mermaids' Tears

*The Polymermaids weep
Polymermaid tears,
lamenting their garden,
overwhelmed, decayed,
from sandy shore to
unfathomed deeps.*

*Triton mangled,
Kraken strangled,
Leviathan entangled,
in unbreakable polymer chains,
as Poseidon's domain,
poisoned, remains.*

*The Polymermaids sing
Polymermaid songs.
Alluring and fatal;
irresistible.*

Sing, Eurythene!

*Sing to mortal earthbound folk.
Sing, Propylene, mortal
yearnings to provoke.*

*Ester, Styrene, Amide -
comb out your silk-like hair.
Catch the strands to weave
your nets, the whole world to
ensnare.*

*Weep, Etheremide,
weep, Ethylene!*

*Drown your world with your
tears.*

Stormy Seas

Look what the storm washed up. Storm "Kathleen" managed to wash up 2 litter pickers on Portrush West Strand. Question is do they count as litter?!

Have you found any unusual items washed up during a storm?

Let us know at:
marinelitter@daera-ni.gov.uk





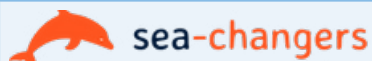
Have you thought about applying for a grant?

There is a lot of support and funding available for groups and individuals who want to make a positive impact in the area of marine litter.

DAERA operate a Marine Litter Capital Grant Scheme which is administered by Keep Northern Ireland Beautiful. The aim of this scheme is to help prevent marine litter entering our environment as well as removing this litter from coastal and riverine areas. Organisations, community groups, schools, individuals and Councils (Councils must provide 50% match funding) can apply to purchase items to:

- Prevent litter and plastic pollution from entering the marine environment;
- Enhance the environmental management of a local area to reduce marine litter;
- Improve the health and wellbeing of communities and marine biodiversity recovery by helping to improve and/or maintain the quality of public open spaces; and
- Improve the quality of their local environment by changing behaviour through creative concepts to reduce the incidence of littering.

The opening of the marine litter capital grant scheme is widely publicised but you can keep watch for the 2024 scheme on Live Here Love Here's [website](#).



Sea-changers UK marine conservation charity - has a Marine Conservation Social Fund which welcomes applications from a wide range of UK based organisations including charities, community groups and not-for-profit groups. The objectives are to support marine conservation, participants' health and wellbeing and/or deliver benefits for disadvantaged communities. Details will be available on Sea Changers [website](#) when the 2024 scheme opens.

Or Participating in a Scheme?

Fishing For Litter



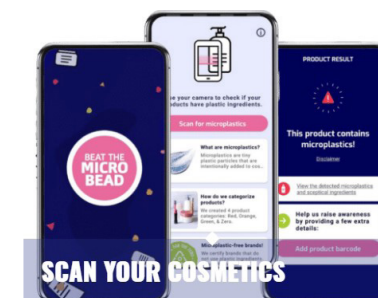
Fishing For Litter is an imaginative project to involve the fishing industry in helping to reduce marine litter. It started as a small Dutch scheme and has now grown to include countries in the wider North Atlantic region. At home the NI Fishery Harbour Authority encourages fishers operating out of Kilkeel, Portavogie and Ardglass harbours to sign up to the scheme. At no cost to the fishers, they are provided with hard-wearing sacks to keep on board. When litter gets caught in nets the fishers remove the rubbish, store in the sacks and then dispose of these when the vessel returns to port. You can read more about the scheme [here](#).

BTMB

Northern Ireland introduced a ban on the manufacture and sale of rinse-off personal care products that contain plastic microbeads in 2019. Perhaps you remember some of these products with tiny little pieces of solid plastic in them apparently helping us to wash our faces or exfoliate our skin? The ban has undoubtedly helped in preventing these small beads of plastic ending up in our waterways.

However, it might surprise you to know that items such as lipstick, eyeliner, sunscreen, deodorant and nail polish, may contain microplastics in their ingredients. But how are we to know?

Dutch non-profit marine conservation organisation 'Plastic Soup Foundation', started a Beat the Microbead (BTMB) campaign in 2012 initially to raise the issue of microbead pollution (www.beatthemicrobead.org). Today their campaign raises awareness about all kinds of microplastics in cosmetics. Their BTMB app allows to you use your phone camera to scan and identify microplastics from a product's ingredients list. BTMB can be downloaded via the App Store or Google Play.





Food for thought



Innovation comes in all shapes, sizes and formats. A restaurant in Copenhagen called '[Alchemist](#)' mixes theatre with gastronomy to create a dining experience like no other. Guests are educated, encouraged to think about issues and even inspired to take positive action such as becoming a blood donor. The picture above by taken by photographer [Søren Gammelmark](#), represents a planetarium dome where images are projected in combination with the relevant dish. One such dish is cod with edible 'plastic' designed to stimulate discussion about the issue of marine plastic pollution. Other dishes aim to raise awareness of marine conservation, invasive species and how to reduce food waste by skilfully preparing otherwise unused parts of animal and fish proteins.

Plastic Fantastic guessing game

Gareth Lamrock, Field Officer for Keep Northern Ireland Beautiful conducted an education session with some primary school children as part of the educational resource package launch by Causeway Coast and Glens Heritage Trust. This is some of the litter he found on the day, some of which are clearly recognisable, but can you guess what these three items are? Answers on page 13.



Image - Gareth Lamrock



A throne fit for a King?

During a visit to Kenya in 2023 King Charles III was gifted a throne-like chair crafted from 100% recycled plastic. East African circular economy movement called The Flipflop Project, handcrafted the chair as a token of appreciation of UK government's support of Flipflop and in recognition of King Charles' long-standing passion for environmental matters. The chair is in the style of Swahili furniture-making and boat building. The Flipflop Project provides local employment, education, and aims to preserve local craftsmanship skills all the while re-purposing plastic collected in the Lamu archipelago. You can read more of the story [here](#).



Image - The Flipflop Project/UK in Kenya.

Making Waste Wonderful

Having been gifted some sea glass Christmas decorations I contacted the artist to learn more. Here Teresa Bardon of Mourné BeachArt tells us her story.



Images - Teresa Bardon, You can see more of Teresa's work on Facebook and Instagram.

"I am Teresa and for the last ten years I have been collecting sea glass during my walks on Newcastle beach with my dog Luna. I retired from teaching five years ago and inspired by my family I decided to make use of the recovered sea glass I found.

I began learning how to create art with my beach finds and introduced simple line drawings and background watercolour to create pictures and greeting cards.

The process involved in making the pictures begins with collecting, washing, drying, and polishing each piece. I sort the glass according to colour and store in jars waiting for creativity to happen.

I am inspired by the rugged beach, atmospheric Mourné mountains, wildlife and plants of my beautiful hometown of Newcastle, Co. Down as well as scenes depicting local life such as fishing, golfing and farming.

I feel very privileged to live in such a lovely town and appreciate I can create art with my beach finds as well as contribute to the removal of glass from the beach".



Michael Bolster, Assistant Warden at Portrush Coastal Zone

Image - Portrush Coastal Zone



The Portrush Coastal Zone is owned and run by DAERA Marine and Fisheries Division, housed in what was an old Victorian Bath House. Our primary objective is to showcase Northern Ireland's marine environment to the general public, including tanks containing several common species of fish and invertebrates, as well as features on marine archaeology, fossils relating to the nearby Portrush Nature Reserve, and an interactive exhibition demonstrating nearshore seabed mapping.

Part of the exhibition is a collection of bones from stranded whales and dolphins which demonstrates the scale of some of our ocean giants. However, despite (or because of) their size, these large mammals are perhaps the

creatures most at risk from marine litter. Large predators (such as dolphins or their larger cousins, Orcas) will bioaccumulate microplastics in their tissues, as their prey consume these particles as part of their own feeding methods. Litter can also be mistaken for prey. Shiny foil might look like the glint of a fish, or a plastic carrier bag a jellyfish. These items are occasionally found in the stomachs of stranded carcasses.

Another concern is from entanglement, where a creature gets tangled up or otherwise ensnared by man-made products. Perhaps the most dangerous of these are discarded fishing nets. These can entangle mammals enough to limit mobility making it difficult to feed or even pose a risk to life. Other items, such as fishing line and rope, can wrap around animals like seals which is particularly dangerous to young animals. In some circumstances, a trained person (such as staff from Exploris Seal Sanctuary or the DAERA Marine Wildlife Team) can remove an entangling item, allowing the animal freedom of movement and feeding. This can be difficult dangerous work and is only possible if the animal can be caught and properly restrained.





If you encounter an injured, sick or abandoned seal pup please do not disturb them but instead call Exploris Seal Sanctuary on 07701 372623 or 028 4272 8062.

If you encounter a live stranded whale, dolphin or porpoise, contact British Divers Marine Life Rescue (BDMLR) - 01825 765546.

How can we help?

Litter both on land and in the marine environment is often challenging to deal with. At our coastal sites litter comes from two sources - rubbish perhaps left by some visitors to the beaches but also litter that is brought in by the tides. Fishing gear can be lost or discarded and include smaller pieces such as broken parts of nets and nylon fishing tackle.

We can all help meet the challenges by making sure to take our litter home after visiting the coast, remove any discarded items when safe to do so and encourage one another to cherish and protect our wonderful environment.



Seal tangled in plastic sack



And finally, we would love to welcome you to the Portrush Coastal Zone to learn more. Our opening times are June - September, 10am - 4.30pm daily. Find out more about us [here](#).



What the Sea Saw

WhatTheSeaSaw by Aileen McClenaghan.

As an environment tutor and avid beachcomber, I take responsibility, pride and pleasure looking after our coastline. In 2018, I began using social media to promote some of my creative work in using beach finds. The more marine litter I came across, the more my focus shifted to helping people connect with the sea and marine life. It followed a particularly troubling find of a seal, tangled with fishing line. I highlight small actions that we can all take to reduce our impact on marine life; my favourite hashtag being **#take3forthesea**.

Marine litter through time

You can track history with marine litter.

A timeline of recreation can be found on our shores: the sea-worn bodies of Frozen Charlotte bisque dolls, the frosted glass marbles lobbed to sink paper boats, the amassing of golf balls from target practice or duffing shots, plastic toys, figures, footballs and dog balls. If only my dog would chase one of the many balls I've found.

I've collected plenty of snapped clay stems of 'penny' pipes. These were cheap, single-use, pre-filled pipes. Over time, the inert and biodegradable clay pipe gets replaced with plastic, toxic cigarette butts, which in turn gives way to hazardous, single use vaping finds, leaking lithium, battery acid and nicotine into the sea. We know that research into links between pollutants and fertility in ocean mammals is ongoing.

Finds include tableware, stoneware jars and shards of iconic Mason Cash mixing bowls, Vulcanite bottle stoppers and on a very lucky day, perhaps a glass stopper - here is a picture of my finds!



I sometimes discern the provenance of sea-smoothed glass and pottery pieces. It is still marine litter; it doesn't belong in the sea, but there's an endearing, historical, harmless quality here. Compare that to what follows. Glass bottles and ceramics are replaced by aluminum cans and plastic bottles. Cans break down to metal hoops. A plastic tide begins, but never ends.

My bugbears are the entanglers and stranglers. Loops, hoops, rope and wire. Ghost gear that keeps on fishing, perpetually enticing and trapping. Balloons ... don't get me started. They don't go to heaven.

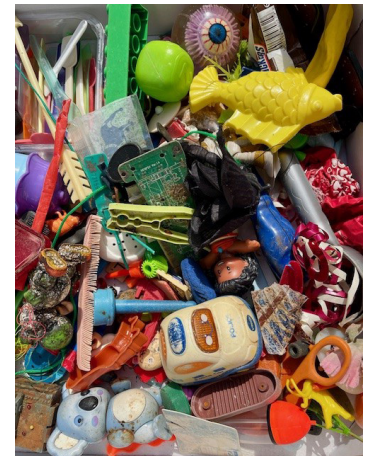
Repurposing some of my finds into artwork, educating and informing I hope I can help people to feel empowered as individuals and as part of a community, to make the small changes and to be a voice for nature. To know that every bit of litter lifted makes a difference. It is literally within our grasp. The more we can connect with nature, the more we can protect it.

Our actions influence others. See you outside!



You can follow my journey on Facebook and Instagram.

www.facebook.com/WhatTheSeaSaw @whattheseasaw



Some of the plastic items recovered.





Biodiversity Educational Resource

by Causeway Coast and Glens Heritage Trust.

Causeway Coast and Glens Heritage Trust (CCGHT) has proudly launched the Causeway Coast Area of Outstanding Natural Beauty (AONB) Key Stage 2 Biodiversity Educational Resource. The resource, developed by Michelle McGarvey and Jarlath McGill, encapsulates years of expertise into a digital format tailored specifically for the Causeway Coast AONB. Its design aligns with the Northern Ireland Curriculum, offering Key Stage 2 educators a tool to engage students with their local environment, while instilling an appreciation for its natural, built, and cultural heritage.

Aiming to enhance local knowledge, enrich learning experiences through practical activities, and foster a deep understanding of biodiversity, this resource encourages students to become actively involved in their learning. With a focus on Thinking Skills and Personal Capabilities, it serves as a bridge between theoretical knowledge and real-world application. The pack contains information sheets as well as classroom and outdoor activity sheets based on ten topics relating to the biodiversity of the Causeway Coast AONB.

The ten topics:

- **Geology**
- **Rivers**
- **Landscapes**
- **Farming and Agriculture**
- **Fish and Sea life**
- **Birds**
- **Flora**
- **Minibeasts**
- **Rockpools, Crabs, Jellyfish and Sea Animals**
- **Animals**



Image - CCGHT.

To accompany the Biodiversity pack, a **Biodiversity Loan Case** containing equipment and materials to carry out biodiversity related activities within the classroom, on the school grounds and within the Causeway Coast AONB.

The Biodiversity loan case can be borrowed for a period of 4 weeks and is provided free of charge.



Fish and Sea Life

As part of the fish and sea life section the learners are taught about how adhering to the 'Leave no trace' principles can have a positive effect in the marine environment, the impact of plastic on the marine environment, what ghost fishing nets are and pointed to sources of further information. Specific actions are suggested with activities such as taking part in beach cleans, arranging trips to Portrush Coastal Zone or writing a news article thinking about what actions we can take to help.

Tiérna Mullan, CCGHT Project Officer, expressed enthusiasm about the initiative, highlighting "It has potential to not only educate but to also connect children with their environment, strengthen community relationships, and inspire projects that contribute to local biodiversity."

Causeway Coast and Glens Heritage Trust is grateful for support from the Northern Ireland Environment Agency (NIEA) and Causeway Coast and Glens Borough Council, reflecting a shared commitment to environmental education and the preservation of Northern Ireland's unique landscapes.

The Causeway Coast and Glens Heritage Trust invites educators, community groups, and stakeholders to explore and utilise this comprehensive resource, aiming to cultivate a knowledgeable, environmentally conscious generation, poised to cherish and protect their natural, built, and cultural heritage. For more information about the Causeway Coast AONB Key Stage 2 Biodiversity Educational Resource, please visit ccght.org



Deputy Mayor Cllr Margaret Anne McKillop pictured with pupils from Dunseverick Primary School.



Images - Pupils from Dunseverick Primary School.



Microbeads - tiny but mighty

by Jack Alcorn, placement student, Marine Monitoring and Assessment Team.



Image of day grab in use on board Blyth 214.

Hi, I am Jack Alcorn, a zoology placement student, working with the sediments group in DAERA's Marine Monitoring and Assessment Team. Last September my team identified the presence of microbeads in sediment samples taken in Belfast Lough. DAERA's survey vessel, Blyth 214, undertakes regular sediment sampling in the marine environment around our shores. Using a "day grab" a 0.1m² area of sediment is extracted and then analysed for a variety of measures.

Microplastics are classified as plastics of 5mm or less in size, with microbeads being a spherical microplastic. A ban on the manufacture and sale of rinse-off personal care products containing microbeads was introduced throughout

the UK in 2018/9, helping to remove up to 680 tonnes from the UK market. Microplastics are important to study, as they persist in the environment and can take millennia to break down. During that time they can enter the food pathways of organisms and bio-accumulation can occur, posing negative impacts on fisheries and species at the top of food chains.

Over the last few months, I have been counting the microbeads from the samples and have discovered up to 1,500 per sample which is 15,000 per m²! The microplastics we found have a 74.90% match for Poly(styrene-4-sulfonate, Magnesium) from Fourier Transform Infrared Spectroscopy (FTIR) analysis, and are mostly amber or black in colour.

It hasn't been all about the beads, I have come across many interesting species in the samples, including sea cucumbers (*Paraleptopentacta longate*), tube anemones and *Astacilla* isopods, which has provided me a good learning opportunity to enhance my taxonomic skills.



Image of FTIR machine used in our microbead analysis.



What next?

The next steps for my work are in trying to determine a possible origin of the microbeads to ensure that no more particles are released to the environment

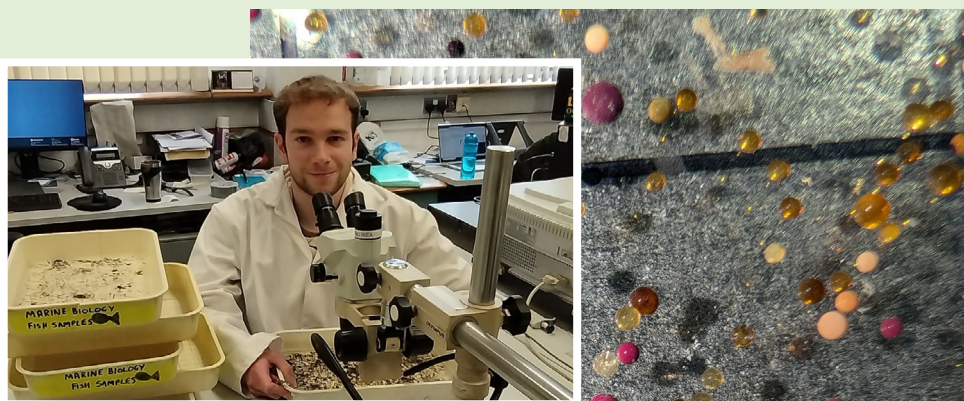


Image of Jack processing the samples for microbead extraction.

Image of microbeads found.

Plastic Fantastic guessing game answers



A This is an LED light used at the tip of a fishing rod.

B This tiny piece of hard plastic is called a nurdle. They are very small pieces of plastic pellets used as raw material in the manufacture of plastic products. These wash up on beaches usually as a result of spillage.

C No this is nothing to do with TikTok, instead it is a hook used to close oyster bags and fix them to an aquaculture trestle.



What's coming up

Cranfield alpaca beach treks -spring/ summer/autumn/winter 2024	Various dates throughout 2024	https://www.visitmournemountains.co.uk/whats-on/
Safari in the City	Various dates throughout 2024	https://www.belfastcity.gov.uk/belfast2024/the-programme/safari-in-the-city
The Spirit of the Bann	14 July 2024	https://discovernorthernireland.com/whats-on/the-spirit-of-the-bann-p825271
Lady of the lake festival, Fermanagh	11 - 21 July 2024	https://northernirelandholidays.co.uk/whats-on-in-northern-ireland-annual-events-calendar/
Portstewart Red Sails Festival 2024	21-27 July 2024	https://northernirelandholidays.co.uk/whats-on-in-northern-ireland-annual-events-calendar/
Skiffie fest 2024 – Strangford lough watersports festival	9 - 11 August 2024	http://skiffiefest.com/
Summer Entertainment And Fireworks Portrush	10 August 2024	https://www.visitcausewaycoastandglens.com/whats-on/
Wake the Giant Festival, Warrenpoint	17 - 18 August 2024	https://www.visitmournemountains.co.uk/whats-on/wake-the-giant-p792981
Newry water festival	26 August 2024	https://northernirelandholidays.co.uk/whats-on-in-northern-ireland-annual-events-calendar/
Tide and turf Portavogie food festival	7 September 2024	https://www.visitardsandnorthdown.com/whats-on/tide-and-turf-portavogie-p799441
Great British Beach Clean 2024 - various locations	20 - 29 September 2024	https://www.mcsuk.org/what-you-can-do/join-a-beach-clean/great-british-beach-clean/great-british-beach-clean-events/
Bushmills Salmon and Whiskey Festival	4 - 6 October 2024	https://www.visitcausewaycoastandglens.com/whats-on/bushmills-salmon-and-whiskey-festival-p832811



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For further information on the work of the DAERA Marine and Fisheries Division,
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please contact Jenny Benham.

E-mail: marinelitter@daera-ni.gov.uk

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