

Marine Litter

Quick Guide

April 2015

What is Marine Litter?

Marine Litter is any persistent, manufactured or processed solid material disposed of or abandoned in the marine and coastal environment.¹ Marine litter may be found on the beach (beach litter) or in the sea (offshore litter).

Worldwide, an estimated 8 million items of marine litter are dumped in the sea each day but **land-based sources** (e.g. litter dropped on a beach or washed down a river) are responsible for an estimated **80 per cent** of marine litter.²

Marine Litter in Wales

Annual Marine Conservation Society (MCS) beach litter surveys found that beach litter in Wales **increased by 46.2 per cent** between 2013 and 2014.³ This follows a trend of increasing litter density since 2011. In the 2014 weekend survey 6,438 items were collected per km across 36 beaches in Wales. In 2014, MCS found Wales to have the highest litter density in the UK which was more than 2 ½ times that of the UK as a whole.⁴ This is the highest density ever recorded by the MCS.

Wales had the highest density **for all sources of litter** in the UK. Litter types found on Welsh beaches in 2014, as a percentage of total beach litter in Wales:

- **Unknown** (e.g. small plastic fragments) – **40.9 per cent**
- **Public** (e.g. plastic bags, bottles, toys) – **33.9 per cent**
- **Fishing** (e.g. line, nets) – **14.6 per cent**
- **Sewage related debris (SRD)** (e.g. cotton buds, sanitary items) – **5.5 per cent**
- **Shipping** (e.g. industrial packaging, strapping, pallets, oil containers) – **3.9 per cent**
- **Fly-tipped** (e.g. appliances, car parts) – **1.2 per cent**
- **Medical** (e.g. syringes, inhalers, plasters) – **0.2 per cent.**⁵

¹ UNEP **Marine Litter, an analytical overview** 2005 [accessed 17 November 2014]

² OSPAR Commission and UNEP, **Marine Litter: preventing a sea of plastic**, 9 February 2009 [accessed 17 November 2014]

³ Marine Conservation Society, Beachwatch Results 2014

⁴ *ibid*

⁵ *ibid*



Small plastic pieces were the number one item found on UK beaches in 2014, and have been so during every MCS Beachwatch survey consecutively since 1998.⁶ Plastic comprised **61 per cent** of all UK beach litter in 2014 and the number of items of **plastic on UK beaches has increased by over 181 per cent** since 1994 (in 1994 530 items per km were found compared with 1,488 items per km found in 2014).⁷ Plastic may take 450 to 1,000 years to degrade at sea.⁸

Why is Marine Litter a problem?

Health

Medical litter and sewage related debris are obvious hazards to human health. In addition, microscopic plastic fibres in the sediment absorb toxins from the water. These toxins are passed up the food chain increasing in concentration in a process called bioaccumulation. These concentrated toxins may affect humans if a contaminated animal is consumed.⁹

Tourism

In 2014, 34 Welsh beaches and zero marinas were awarded Blue Flag status¹⁰, 31 Welsh beaches received Green Coast awards¹¹, and a further 106 received Seaside awards¹², all based in part on water quality standards.¹³ Marine litter affects the cleanliness of beaches, threatening these awards.

Wildlife

Around 100,000 marine mammals and sea turtles worldwide are reported to die each year due to entanglement or ingestion of plastic such as balloons.¹⁴

Animals may become entangled in items such as fishing equipment, causing drowning, injury and restricted movement which may lead to starvation or increased predation. Between 2000 and 2005 8.3 per cent of grey seals observed at Godrevy Head (Cornwall) showed signs of entanglement.¹⁵

Ingestion of litter by animals could cause physical damage to the digestive tract, blockage and subsequent starvation, or release toxins into the animal's body. Plastic was found in the stomachs of 93 per cent of fulmar seabirds analysed in the Netherlands between 2004 and 2008.¹⁶

Marine litter may also be used as a nesting material by birds thereby presenting a hazard to the chicks. Over 90 per cent of gannet's nests on Grassholm Island contained plastic items.¹⁷

⁶ *ibid*

⁷ *ibid*

⁸ *ibid*

⁹ Hall, K. *Impacts of marine debris and oil*, 2000 [accessed 8 April 2015]

¹⁰ Blue Flag, *Wales* [accessed 8 April 2015]

¹¹ Keep Wales Tidy, *Green Coast* [accessed 8 April 2015]

¹² Keep Wales Tidy, *Seaside Awards* [accessed 8 April 2015]

¹³ Dŵr Cymru, *Green Sea Partnership/ Blue Flags/ Green Coast Awards/ Seaside Awards*, Webpage [accessed 8 April 2015]

¹⁴ Hall, K. *Impacts of marine debris and oil*, 2000 [accessed 8 April 2015]

¹⁵ Godrevy Seal Group, *Grey Seals : Net Entanglement Report*, February 2005 [accessed 8 April 2015]

¹⁶ Institute for Marine Resources & Ecosystem Studies, *Fulmar Litter EcoQO Monitoring in the Netherlands 1979-2008*, 10 May 2010 [accessed 8 April 2015]

¹⁷ RSPB Press Release, *Plastic bags a threat to marine wildlife*, 30 September 2009 [accessed 8 April 2015]



Fishing and recreational vessels

Marine litter associated damage has been estimated to cost fishermen in the order of **£6,000 to £30,000 per fishing vessel per year**.¹⁸ Litter on the sea bed may damage nets; discarded oil filters and other harmful substances may contaminate fish catches; litter may become tangled in propellers and smaller fragments may accumulate in nets and require regular removal.

Energy

Litter may block seawater intakes at power stations, compromising their safety. Wylfa Nuclear Power Station reported that approximately 1 cubic metre of marine litter and seaweed accumulates in their water intake drums each day.¹⁹

What is being done to reduce the amount of Marine Litter?

Preventing littering

In June 2009 the Welsh Government launched the *Towards Zero Waste* strategy which aims to reduce waste by 1.5 per cent each year to zero per cent by 2050 by reducing the amount of waste produced and increasing the recycling rate.²⁰

In December 2013 the then Minister for Natural Resources and Food, Alun Davies agreed to launch the new Litter Programme for the Coast: to provide the funding for the pilot, for projects that encourage community action; and the development of a Local Environment Quality Action Plan.²¹

The dumping of waste and litter at sea worldwide is controlled under the **London Convention and Protocol**²² and the **MARPOL Protocol**.²³ In addition the **EC Port reception facilities Directive (2000/59/EC)** requires all Member States to ensure there are adequate facilities for the reception of ship-generated waste and cargo residues at all ports.²⁴ The dumping of waste and litter from both land-based and off-shore sources is controlled in the North-East Atlantic under the **OSPAR convention**.²⁵

The **Environmental Protection Act 1990** states that it is an offence to deposit or drop litter onto land or water unless authorised to do so by law or the land owner (providing the land owner owns all adjoining land and any water bodies into which the littered water is discharged). Disposal of controlled waste, e.g. household waste, requires a permit.²⁶ However, Keep Wales Tidy notes that the release of balloons is not explicitly mentioned in this Act and mass balloon releases are commonly used to increase publicity surrounding events and organisations.²⁷

¹⁸ Hall, K. *Impacts of marine debris and oil*, 2000 [accessed 8 April 2015]

¹⁹ *ibid*

²⁰ Welsh Government, *Towards Zero Waste*, Webpage [accessed 8 April 2015]

²¹ Welsh Government, *Litter Programme for the Coast*, 13 December 2013 [accessed 8 April 2015]

²² International Maritime Organisation, *London Convention and Protocol*, Webpage [accessed 8 April 2015]

²³ International Maritime Organisation, *International Convention for the Prevention of Pollution from Ships (MARPOL)*, Webpage [accessed 8 April 2015]

²⁴ *OLJ 332*, 28.12.2000, p. 81

²⁵ *OJ L 104*, 3.4.1998, p. 2-21

²⁶ UK Government, *Environmental Protection Act 1990* (Chapter 43) 1 November 1990 [accessed 8 April 2015]

²⁷ Keep Wales Tidy, *Policy paper on balloon litter*, 2008 [accessed 8 April 2015]

The Welsh Government is currently working with Defra and other devolved administrations to implement a UK Marine Strategy under the **Marine Strategy Framework Directive** (2008/56/EC) (MSFD).²⁸ The overarching aim of the MSFD is for Member States to put in place measures to achieve Good Environmental Status (GES) in their waters by 2020.²⁹ The Directive was transposed into UK law in July 2010 through the **Marine Strategy Regulations 2010**.³⁰ GES will be assessed against 11 descriptors, one of which relates to marine litter; “Properties and quantities of marine litter do not cause harm to the coastal and marine environment”.

There are three key stages to the implementation of the MSFD, the first two of which have been completed. The first stage (published December 2012) involved setting out an initial assessment of the current status of UK seas and setting out characteristics of GES.³¹ The second stage (published July 2014) involved setting out the monitoring programmes to measure progress towards GES.³² The third stage, which is expected to be established by December 2015 and operational by December 2016, is the formation of the programme of measures to achieve GES by 2020.

The **Urban Waste Water Treatment Directive (91/271/EEC)** requires all waste water destined for marine waters (from communities of more than 2,000 people) to receive at least primary treatment to remove **50 per cent** of solid waste prior to discharge. Discharge from combined sewage overflow pipes (CSOs), a major source of Sewage Related Debris, is also restricted to during periods of unusually high rainfall.³³ However, the Marine Conservation Society report that some CSOs, which release untreated waste into rivers and seas, are discharging hundreds of times a year and are being used as a regular sewage outlet.³⁴

Removing existing marine litter

The *Green Sea Partnership* was launched in May 1996 to improve Welsh coastal water quality and increase the number of award-winning beaches.³⁵

Bathing waters in the EU must comply with the *EC Bathing Waters Directives (76/160/EEC and 06/7/EC)* which set minimum standards for bathing water quality and require the visual inspection for, and removal of, ‘tarry residues, glass, plastic, rubber or any other waste’.³⁶ In 2014 there were 102 identified bathing waters in Wales all of which meet the mandatory standards of the *Bathing Waters Directives*.³⁷ By comparison in 1990 70 per cent passed the mandatory standards. However, coastal bathing waters cover only 3.1 per cent of English and Welsh coastline and water quality monitoring is only required during the bathing season (typically May to September).³⁸

²⁸ Directive **2008/56/EC** of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) [accessed 8 April 2015]

²⁹ European Commission, **Achieve Good Environmental Status**, 5 November 2014 [accessed 8 April 2015]

³⁰ **The Marine Strategy Regulations 2010**, 2010/1627 [accessed 8 April 2015]

³¹ UK Government, Policy Paper, **Marine strategy part one: UK initial assessment and good environmental status**, 20 December 2012 [accessed 8 April 2015]

³² UK Government, Policy Paper, **Marine strategy part two: UK marine monitoring programmes**, 20 December 2012 [accessed 8 April 2015]

³³ **OJ L 135**, 30.5.1991

³⁴ BBC, **European Action over sewage pipes**, 7 September 2009 [accessed 8 April 2015]

³⁵ Welsh Government, **Work of the Green Sea Partnership**, Webpage [accessed 8 April 2015]

³⁶ **OJ L 64**, 4.3.2006

³⁷ Welsh Government, **Bathing water quality and beaches in Wales**, 7 November 2014 [accessed 8 April 2015]

³⁸ Hall, K. **Impacts of marine debris and oil**, 2000 [accessed 8 April 2015]



EU action

Strong support for EU-level action was reported, following a stakeholder consultation in 2013 on marine litter, to extend and improve producer responsibility as a means of tackling the problem.³⁹ The European Commission suggested that packaging could be “optimised”, including better design for re-use, recycling, prevention and low material demand among other things.

Establishment of a marine litter reduction target was one of the possible EU-level actions but this received weaker support. This idea ranked slightly below establishing an EU-wide monitoring strategy for marine litter, facilitating exchange of information among Member States and supporting their actions. The consultation found strong support overall for the establishment of litter reduction targets by local or national authorities.⁴⁰

Further information

For further information about **MARINE LITTER**, please contact **KATY ORFORD** (KATY.ORFORD@Assembly.Wales) or **NIA SEATON** (NIA.SEATON@Assembly.Wales) Research Service.

See also:

- [Plastic Oceans foundation](#) website
- [Marine Conservation Society](#) website

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³⁹ Ends Europe, [Stakeholders identify actions to cut marine litter](#) 10 March 2014 [accessed 8 April 2015]

⁴⁰ *ibid*