



Coastwatch Marine litter Recommendations 2016 for Discussion

When we look back over previous years of Coastwatch results there is little change in most macro waste/litter parameters. Significant policy changes like a plastic bag tax are rare, but when they occur a major and lasting improvement in a waste category can be created. Our recent inclusion of micro litter and new app does not allow such trend analyses, but opens a major new area of concern with urgent action needs.

After overarching recommendations, more specific prevention and mitigation measures are listed here under the headings used in the survey questionnaire as large, small and micro litter.

OVERARCHING RECOMMENDATIONS

Prevention: It appears that so much effort goes into staying on top of age old problems like fly tipping that we are not putting enough thought into prevention. It is predictable that we will invent and use new materials and find novel ways to use established materials for some good reason. Man is inventive. New long life plastics could be added to umpteen goods, just like the plastic microbeads were added to our toothpaste and cosmetics. Addressing unintended side effects as they arise and battling with industry which has invested in the product can be avoided by better earlier impact assessments. As measures to implement the Marine Strategy Framework Directive (MSFD) are still being drawn up Coastwatch urges the adoption of a horizontal measure: - to assess the potential marine litter load and impact of new materials and objects. That then can be divided into many sub-measures: new EIA Directive guidance should be issued to clarify that it includes assessment of marine litter. New products, materials and novel use of objects need to be audited for potential micro litter and marine litter impact and existing ISO and other standards need to be reviewed to check they are adequate to pick up marine litter impact. The goal is to catch things like plastic micro beads in beauty products before they ever reached a shelf.

Law enforcement with restoration needs to become the norm. If someone illegally places tyres or demolition waste on the coast, then that needs to be reversed. Paying a fine doesn't reverse it. Ideally the culprit is made to remove them, but for nature as well as citizens and tourists, coastal quality is what counts and not who ultimately carried out the waste removal.

A comprehensive marine litter reduction policy is needed and EC waste policy changes should aid that. The biggest new action focus is on micro litter. We know from surveyor comments and Coastwatch results that as our eye gets used to looking for it, we will see more micro litter. It is also predicted that marine food monitoring methods will be updated and that food standards will develop rapidly to prevent sales of micro litter contaminated seafood which could have enormous impact on our fisheries and aquaculture industry. The recent NUIG research in this area confirms micro plastic contamination of Irish seafood like mussel and prawns. It is not just an issue elsewhere.

LARGE GOODS/ ITEMS SELECTED FOR PARTICULAR MENTION AND ACTION:

1. **Car tyres:**

Our survey results indicate an increase in used tyre spread on the shore and numbers counted. Tyres brought to the shore for a secondary use are in contravention of tyre waste regulations. In some areas – e.g. Bannow Bay SAC and SPA - the several hundred tyres are added to by persons unknown. These only claim ownership when they meet a rival crab collector. Cork surveyors found the start of a crab trap new tyre line enterprise around Cobh and are the only known locations where due to surveyor labour and county council support the tyres were removed. Apart from unsightly waste which arrives covered in road dirt and garage oil, anecdotal evidence suggests warm tyres are a preferred hiding place for peeler crabs and large scale trapping can effect site ecology.

ACTION: [Enforcement of tyre waste legislation to prevent diversion into the marine environment and clarification who is responsible for intertidal shore clean ups, followed by removal of tyres found on the shore.](#)

2. **Heaps of dumped/fly tipped material.**

While household waste dumping is now less common than at peak level when waste collection charges were introduced, this year's Coastwatch results are the highest of the last 5 years, with fly tipping seen in 10% of su. Further research carried out by the Kerry Coastwatch coordinator highlights it is persistent problem which requires not only ongoing joint local and authority vigilance and action but a review of judiciary attitude.

From surveyor pictures and comments old landfill sites which are mined by the sea are the equivalent of ongoing fly tipping.

ACTION:

Old landfills are a legacy which needs to be monitored annually and reported on with extra checks after storms in case the sea has opened one end up and is now 'eating it'.

Known landfill and dump problem sites which are open to the elements and sea mining must be addressed as priority. In the Bray historic landfill site case Coastwatch is looking for removal of the waste as most effective solution.

Fly tipping: Added to the huge effort which local authorities have rolled out over the years including cameras in key spots, waste reporting app, litter wardens and clean ups we suggest (i) a quarterly local authority organised free 'large waste collection service' , (ii) better web site information where problem items (like mattresses) can be taken, as these are not accepted in recycling centres

Court deterrent: Fly tipping offenders brought to court should as a rule be responsible for cleaning up and correct disposal. If the waste has already been cleaned up a court order to ensure another dump is cleared could be useful coupled with hefty fines.

3. **Rope and string:**

Context: a marine litter category becoming more widespread in our surveys. Apart from entanglement risk in larger knotted ropes and nets, modern nylon and polypropylene ropes and nets shed fibres which are ingested by a range of marine life and create a problem when lost or discarded and in normal wear during use. There are many rope users including fisheries, aquaculture, shipping and marine recreational uses. One perplexing rope/string source is from dollys where rope/string ends are purposely tied to the bottom of nets used for bottom trawling. As the dollys disintegrate on the sea floor in mussel and prawn fishing grounds those not caught ingest the fibre.

Action: Substitution of materials to reduce rope fibre micro litter for both nature and human health reasons is urged as priority. This requires both research on options and field trials which could be EMFF project funded.

4. **Fishing Pots and traps:**

Modern traps are made of plastic/metal nylon which can ghost fish for a long time when lost or dumped. There are no limits on number of pots in an area or per boat, except for recreational fishermen. There are no published figures or studies on pot numbers or annual losses around Ireland. However some surveyors in the business suggested that there are over half a million pots in use at any given time and that lobster and crab men with > 1000 pots would have difficulty hauling these out and finding storage space before winter storms. It may be cheaper and easier to risk loss and then buy new ones. I

ACTION: A set of actions are called for - from pot ID tags which link to the owner and if swept up can be reunited with owners to substitution of plastic by traditional willow/hazel material, which when lost, pose only a brief ghost fishing threat. (See appendix 1 example)

SMALL ITEMS

5. **Polystyrene:**

From first micro litter app returns and surveyor comments, polystyrene beads are second most frequent after rope filaments. They deposit in the splashzone and tide line where

sand hoppers concentrate which are known to ingest them, slow down and become less fertile. It is also the same area where many waders feed. Although this micro litter is a known threat to wildlife and impossible to clean up once larger items have broken down to fbeads, there appear to be ever more uses for the material including moorings in marinas, floats, fish boxes, toys, water sports gear like surf boards and cups.

Action: A mandatory material impact assessment for any new goods which are likely to be used or enter the marine environment and a substitution of materials in key objects now made in polystyrene including fish boxes and cups. We suggest a prohibition of any new marine or near water polystyrene uses without impact assessment and a 2 year period to convert known problem products like polystyrene fish boxes to low risk environmentally acceptable goods.

6. **Sanitary Waste:** In the Coastwatch survey this is a grouped category, but from surveyor observations and OSPAR method more detailed surveys we prioritise **flushable wipes and cotton buds**.

- **Wipes:** The sale of wipes is growing and we are finding them especially around storm water overflows where they can form whitish layers. From a shore user point of view any increase in sewer blockage leads to more raw sewage emergency discharges and impairment of beneficial water uses. Northern Irish authorities and surveyors highlighted the lack of impact assessment standards for a manufacturer promise of 'flushable' Such prominently displayed information leads to consumers thinking it is safe to drop used wipes into the toilet.

Action: An international consumer campaign not to flush wipes and invitation to manufacturers to drop the term 'flushable' from wet wipe and baby wipe packaging until no impact of flushing is established independently looking at sewerage system, sewage plant and receiving environment. If as is suggested the wipes lead to greater risk of blockages and hence activation of storm water overflows.

- **Cotton buds:** Cotton buds were rolled paper but are now plastic stick based. The sticks pass through the sewage treatment process and on release stay in the water column and shores for months or years adding to the plastic marine litter load and making beach users in areas well away from sewage outfalls distrust water quality.

Action: introduction of a significant eco-tax of 50 C/100 buds would lead to a smooth switch back to paper (or wood) based alternatives which are less competitive at present.

7. Drinks containers:

While drinks container numbers are dropping, numbers are still much higher than in countries with a deposit on return system. Surveyors have reported that in the vast majority of clean ups bottles and cans are collected as mixed waste for landfill - a sad end for simple to recycle materials.

Action: a deposit on return system for drinks containers to optimise reuse and recycling and prevent littering is required.

6. Balloons: Balloons are a category of avoidable marine litter which is caused mainly by gas balloon releases for set events. While marketed as biodegradable, latex balloons stick in guts of animals which have ingested them. A briefing paper on impacts is available on our website.

Action: We urge government to halt this wilful form of littering as measure under the MSFD. Until that happens we ask local authorities and schools/colleges not to support or permit mass balloon releases in their area. In this context we commend Trinity College Dublin for first supporting research and then making this ban part of the college management code this year. Coastwatch is happy to help come up with alternatives to mass balloon releases if requested and to present the case against balloon releases.

MICRO LITTER (visible micro litter up to 2 mm diameter or 2 cm length)

7. Surveyors found that most micro litter seen was produced by larger objects disintegrating: - in first position was filament from rope and string, then flakes of plastic and then polystyrene objects turning into polystyrene beads. Hard plastic pellets which enter the marine environment in that form, were also found and highlight that we need to look at a wide range of micro litter sources.

Action: Prioritise micro litter contamination control and address known sources. In recommendations 3, 4 and 5 above we dealt with rope and traps as known sources of plastic filament and also with polystyrene. Further recommendations:

8. Hard plastic pellets were observed on SE coast beaches especially and enter the litter stream directly without break down of larger items. (NB - Minute hard plastic micro beads added to cleaning and cosmetic products which pass through our sewer system and into the marine environment may also have been present, but not recorded as it requires centrifuge or other separation to distinguish these from small sand grains.)

Action: As knowledge of hard plastic pellets use and litter sources from land and vessels is too limited at present, we recommend a short study, coupled with a targeted citizen science micro litter app use campaign to map pellet litter occurrence and density against any uses and spillages reported.

Example: If considering waste issues and action it may be useful to set thoughts out in a matrix as here for Pot fisheries waste.

Lobster, crab and whelk pots	Macro material	Meso or Micro Material	Source/ Key Stakeholder	Comment
ISSUE	Fishing litter pots and traps are now made in Plastic/metal nylon. which can ghost fish if lost	Lost pots and rope eventually break into meso/micro plastic/metal /nylon	Irish lobster industry	EMFF funding is good route to trial traditional natural material pots and work out pot making requirements
Prevention	Make pots from hazel or willow And less pots	Substitute manmade materials by natural which don't cause harm if lost or discarded	Make pots from hazel or willow And less pots	There are a few operators with disproportionately large number of pots. It may be possible to target them first
Reduction	Reduce number of pots by fisheries management and mx pot number		Industry agree less pots and qualities. Put into marketing info	
Clean up	Tag pots with license number		Pot search after storms	A thought still considered: one marine info office logs and relays all information whether bird rings or pot tags
Other consideration	Can be regulated via lobster licenses. Must ensure fair transparent process and extra incentives like marketing		Reward for lost pots returned?	