

Coastwatch 2017 Survey Headline Results for publication Dec 11th 2017



These are preliminary results subject to surveyor review

In a year of unusual weather, awakening of a new building boom and increases in the number of cattle, the island of Ireland results for the autumn Coastwatch survey were unusual too. Results here cover 538 shore sections or 'survey units' checked by Coastwatch volunteers at low water.

WATER QUALITY

A mixed water quality picture emerged. Survey results show a worrying widespread increase in nitrate enrichment of fresh water inflows entering the shore. Also, more green seaweed patches reported overall, but less on the East coast, probably reflecting the dryer East coast weather. In contrast to last year, the opportunistic *Ectocarpus* seaweed did not form carpets in Dublin Bay.

The 2017 results saw 40% indicating their sites were reliably sewage pollution free, 31% thought it rarely happened and 29% thought it was either 'occasional', 'frequent' or 'usual'. This is a decrease in sites deemed pollution free and rarely effected and reasons are discussed in text.

In one pilot area Coastwatch identified extra streams and drains which were not shown on official monitoring maps by overlaying surveyor data on catchments.ie maps. This exciting find, restricted at this stage to Bannow Bay, Co Wexford, will improve our knowledge of inflows and should help in monitoring and managing water quality.

WASTE AND MARINE LITTER

The Coastwatch survey records waste and litter on the shore by simple presence/absence and counts for a few select items. Questions are set out by rough size categories from E1 large items, over E 2 and 3 smaller items (where E 2 are a subset which is counted) E 4 micro litter and finally a judgement call as to which area of shore is most littered.

Landfill Materials were found in a quarter of all shores surveyed. It was the most frequent source of large waste, the highest recorded in the last 6 years and this is the 4th year where this waste category has increased. From comments and photos it appears to be mainly demolition waste and was put there to provide erosion control for a landowner. **Tyres** were next most frequent, recorded in every 5th survey unit. This within the range seen over the last 6 years and includes clusters with >100 waste tyres set in long lines as peeler crab traps. **Household furnishings** ranked third in large waste and was slightly lower than last year. A welcome reduction in **fly tipping dumped heaps of rubbish** was also noted, with records now in 7% of survey sites from 9% last year. Abandoned **aquaculture gear** was reported in 5% of survey sites and was concentrated in the 8% of survey area used or designated as shellfish water.

Items Counted: There were 8804 **plastic drinks bottles** counted, spread over 82% of all survey units, averaging at 18.1 bottles per 500m of shore or 3.6 per 100m. While this was among the lowest counts in Ireland since 1991 and maintained last year's count, it is still much higher than in countries which have a deposit on return for empty drinks containers. The **bottle lids** - only counted since 2014 - have shown their 4th successive count increase. Complex 'sports' caps where the mouth piece breaks off were pointed out by some surveyors. If one piece is found on its own it is counted as cap. The **drinks cans** count was also slightly higher than last year at 9.5/500 m survey unit, but slipped into third position in the drinks litter ranks after lids. The just over 1000 Tetrapacks and glass bottles found made up the rest of drinks litter on the surveyed shores.

Plastic shopping bags were found in 40% of survey unit, with 988 counted, averaging < 2/su. Since the bag tax was introduced in 2002, the count dropped from the peak 18 to 2 bags/su in 2004. Since then a 2-3 bags/su count has been maintained.

Responses to question E 3 **who saw this type of litter** – irrespective of amount? In the 2017 survey the most widely distributed litter item after **plastic bottles** was **rope/string**, reported from 72% survey sites. This represents another rise in this plastic material. **Metal cans** ranked third, followed by **bottle lids**, then **plastic (but not drinks bottle) containers** and **fishing/ aquaculture gear** in joint 5th position (43% of shores). **Fishing and aquaculture waste** was recorded in 42.8 % of survey units, that is without rope/string which is also used heavily in this sector, but recorded separately. When this figure was broken down, nets were seen in 148 survey sites, aquaculture and angling gear in 67 and traps in 58. **Foamed polystyrene** occurred in 37% of surveyed sites, a slight increase on 2016.

In 2017 the **textiles and shoes** category was broken up, with Geotextile (as used under paths and rock armour in recent times) were given a separate category. Surveyors reported textiles and shoes from 42 % of shores, a slight reduction on the previous year and geotextile on 4% of shores.

NATURE

Most habitats, plants and animal questions will be analysed and mapped in more detail after ground truthing. That includes live and dead bird counts, seals and cetacean records to be complete in February 2018. First ground truthing results to confirm finds reported here, are for **seagrass** – *Zostera* species which form a valuable marine habitat. Coastwatch sea kayaker and diver confirmed (i) a band sublittoral seagrass beds at the entrance to Adrigol harbour, Co Cork. This search and exciting find was made after a surveyor on nearby shore noted long blades of this seagrass swept up. This adds to our Bantry Bay seagrass records, where the 2016 survey identified another site. A new modest but healthy 15m long bed of intertidal phenotype of *Zostera marina* was discovered by surveyors in Bannow Bay County Wexford, while a third sublittoral site was confirmed by yearround swimmers at Fenit County Kerry. This too was based on an initial discovery of swept up seagrass at Fenit Harbour beach.

STORM OPHELIA

Storm Ophelia hit Ireland on October 16th. It was well flagged by Met Eireann for the previous week. Coastwatch results capture some aspects of this storm and its impacts.

Biodiversity: On October 9th the first **Portuguese man of war** cluster arrived in West Cork, with records then following from Cork and Kerry, Waterford, then Wexford into Wicklow. The storm impact was patchy. On October 17th some shores were wiped clean and indeed all sediment removed down to bare rock as in Newtown cove Tramore, while others were stuffed with sediment, marine life and litter. The Portuguese men of war bubbles burst, making them invisible in the goulash of animals and seaweeds scooped from the seafloor and inshore waters. But SE coast surveyors noted stranded live **Octopi** as unusual tideline biota. When the storm impact coast area was mapped it matched the pre storm Portuguese man of war sightings. Octopus strandings fell into the impact area too, but were mostly concentrated in Wexford and Waterford.

The storm caused erosion and deposition which varied - even between 2 adjacent beaches. It included significant dune loss in several East coast Natura 2000 sites - Curraclloe, the Raven and Kilpatrick dunes. Damage to **infrastructure and functioning of infrastructure** appeared to be worst in N Wexford/S Wicklow. Storm waves removed the top of the rock armour sea defence, peeling off the dyke path and throwing it into the adjacent caravan park.

Waste thrown up by the sea was higher in polystyrene and sanitary material than usual and more **micro litter** was noted. Bottles and lids were concentrated in some areas as though a marine hoard had been emptied. Questions about burial of hazardous waste dredge spoil at sea were raised and questions about the fate of sewage when treatment plants lost power and that of milk which farmers were to 'dispose of' if hit by days of power failure and back up cooling was inadequate.

BACKGROUND QUESTIONS

Some Coastwatch survey questions provide context for the water quality, litter and biodiversity results. They cover the type of coast included in the survey, the surveyor's local knowledge and judgement of the shore compared to previous years.

The 2017 Coastwatch survey participation was in line with that of the past 6 years. It included more than 1000 images to support the data from the **538** survey sites on which the analysis was based. Compared to the last 3 years, there was a slight shift to cover more Cork and Kerry coast, with reduction on the east coast.

Surveyors either knew their area well, or a little, with only 15% indicating they were surveying a shore new to them. Hinterland use was similar to other years, but with slight shift towards transport and intensive grazing.

Weather wise it was an unusual year. The summer was wetter in the west and dryer in the east. The Sept 15th start of the survey was marked by a second flooding in Donegal. During the survey there was above average West coast rainfall, but a dryer than usual East coast weather. Signs of the approach of ex hurricane Ophelia were picked up from the 9th October and the storm struck just at the start of the 'survey overtime week' plunging large areas the republic into darkness for days. A preliminary Ophelia impact report was undertaken as 171 surveys were carried out after the storm and as several surveyors who had already submitted data went out once more after it struck, providing valuable photos and records.

What is next?

The survey has several aims, a key one is to feed into local action as well as wider policy and legislation to protect, restore and use our shores wisely. Therefore, preliminary results are discussed and recommendations and action proposals formulated starting with a brief workshop on Dec 11th 2017 in TCD and continuing into the next year.

Comments and queries regarding 2017 results especially from surveyors and regional coordinators are welcome as we complete our crosschecks and ground truthing of key finds. The final edited results will then be published in February and March 2018 with an international meeting and exhibition to follow in April – celebrating 30 years of Coastwatch surveys.

Acknowledgements:

We wish to thank our all surveyors 2017 for their fieldwork, reporting and images, our regional coordinators and Coastwatch core team (see separate list of names) Also a big thank you to our sponsors 2017: Dept of Housing foreshore unit, the EPA and Donegal, Wexford, Wicklow and Dublin city councils and finally Trinity College Dublin Civil and Env Eng which hosted us.

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