Analysis of Branded Items found on UK Beaches

Results from Surfers Against Sewage Big Spring Beach Clean: Summit to Sea Brand Audit

Dr Chiarina Darrah

Kathryn Firth

Jack Hedger

9th May 2019

Report for Surfers Against Sewage

Prepared by Chiarina Darrah, Kathryn Firth and Jack Hedger

Approved by

…………………………………………………….

Dr Chris Sherrington

(Project Director)

Eunomia Research & Consulting Ltd
37 Queen Square
Bristol
BS1 4QS

United Kingdom

Tel: +44 (0)117 9172250
Fax: +44 (0)8717 142942

Web: www.eunomia.co.uk

Executive Summary

E.1.0 Background

This report presents results of analysis of data on items collected and reported by Surfers Against Sewage volunteers during their 2019 Big Spring Beach Clean. The purpose of the analysis is to highlight the brands and companies that are responsible for the greatest shares of items found on UK beaches during the Spring Beach Clean, to ensure that these types of companies are obligated under the existing EPR guidelines.

The data were collected by volunteers between the 6th and the 14th of April 2019. Volunteers were asked to record the names of brands whose items they found on their local beach and the number of items found for each brand using an online form. 229 datasets were submitted, totalling 49,413 items, of which 20,045 were branded and 29,368 were unbranded. The ratio of branded to unbranded items does not necessarily provide a reflection of the true situation as it is not clear whether surveys recorded unbranded items in the same way. However, the data are sufficient to give a clear picture of the kinds of companies whose items were most commonly found.

In this analysis of the data, the submissions made to the online form were cleaned up and the brands were mapped to their respective parent companies. The linking of items to specific brands forms the main part of the analysis, including lists of the 50 brands and parent companies whose items were found most frequently. The unbranded items are discussed separately.

E.2.0 Key Findings

Items linked to a total of 799 brands were reported, of which 496 were linked to only one or two items. These were disregarded in further analyses, as they constitute only 3% of the total number of branded items found. The remaining 303 brands can be mapped to a total of 171 parent companies. The 50 parent companies whose items were found most frequently are responsible for 92% of the branded items found, whilst 10 parent companies alone account for well over half the total number of items. These ten companies are shown in Figure E - 1, which also shows their relative shares. Between them, Coca Cola and PepsiCo are responsible for slightly more than a quarter of the branded items reported in the survey.

Figure E - 1: Shares of Branded Items by Parent Company
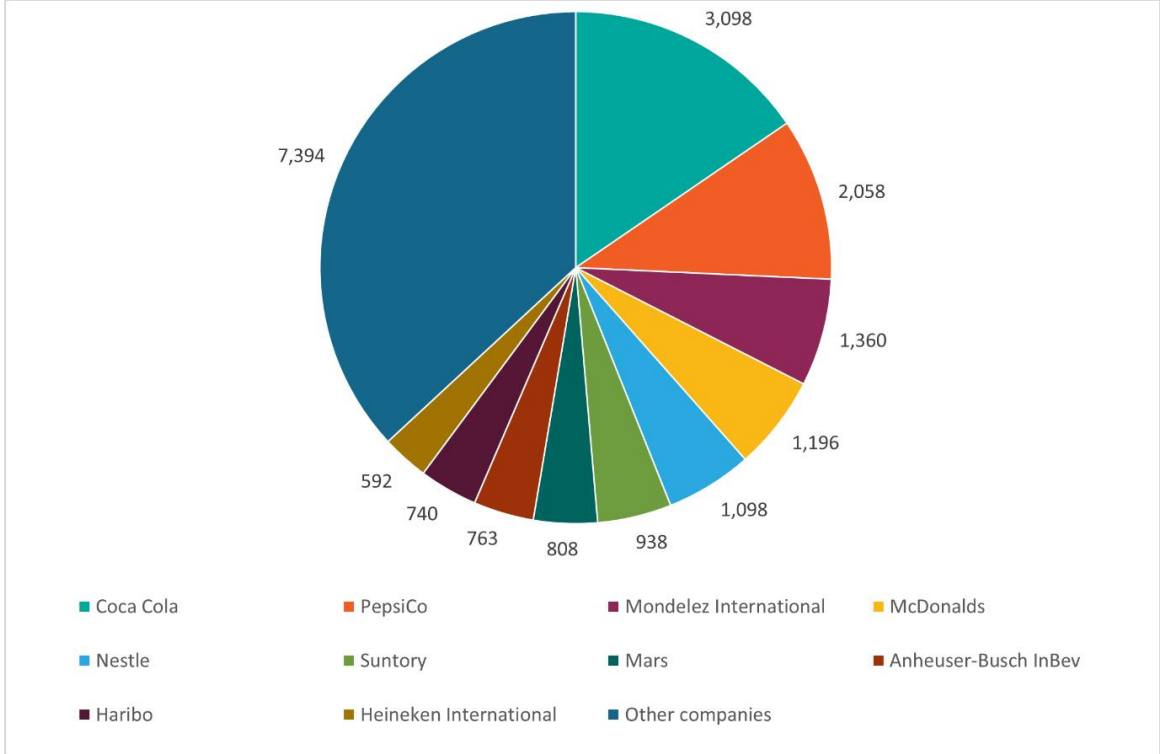
The 50 parent companies linked with the largest shares of the identified items are predominantly food and beverage manufacturers, but a number of tobacco companies, as well as companies with a wider brand portfolio – such as Unilever – also fall within the top 50. The data on the brands themselves, as opposed to their parent companies, are considered to be less accurate due to evident uncertainty among volunteers as to what constitutes a brand: some volunteers entered parent companies (e.g. Mondelez International), some entered umbrella brands (e.g. Cadburys) and some entered individual product names (e.g. Dairy Milk). However, it is useful for creating some distinctions which are lost by looking at parent companies alone. For example, Walkers Crisps make up the majority of PepsiCo's items, and a large number of Costa Coffee items are included in Coca Cola's total. Lists of the 50 brands and parent companies linked with the largest shares of the identified items can be found on pages 9 and 11 in the main report.

All of the 50 parent companies linked with the largest shares of the identified items have an annual turnover of far greater than £2 million, putting them above the de-minimis threshold for companies obligated under the current EPR guidelines. It is also considered that most, or possibly all of the companies in the subsequent 50 would also have a turnover of greater than £2 million, meaning that at least 95% of the branded items found is produced by companies currently regulated under the packaging waste guidelines. Data on the amount of packaging each company handles per annum – the other measure used as a de-minimis threshold to determine obligated companies – was not available, but those with turnovers of far greater than £2 million are assumed also to be above the packaging threshold of 50 tonnes per annum.

Of the unbranded items, cotton buds and cigarette butts were found to be most prolific, with bottle caps, sweet wrappers and baby wipes also featuring highly.

ANALYSIS OF BRANDED ITEMS FOUND ON UK BEACHES

Contents

1.0 Introduction

Eunomia Research & Consulting Ltd (Eunomia) is pleased to present this report to Surfers Against Sewage. The report details Eunomia's analysis of data regarding items found on beaches by Surfers Against Sewage volunteers during their 2019 Big Spring Beach Clean. The purpose of the analysis is to indicate which brands and parent companies are responsible for the greatest shares of the branded items collected by the Surfers Against Sewage volunteers. Accordingly, the analysis covers two levels of branding: (i) the brand of the product, and (ii) the parent company which owns the brand, if relevant. The size of the parent companies is also considered as a second stage of the analysis, using annual turnover as a measure for company size. The size of the company is used to assess the impact of setting size thresholds to determine which companies fall within the scope of EPR schemes. Under current EPR guidelines, companies must have an annual turnover of at least £2 million and handle 50 tonnes of packaging materials or more per year to be obligated under the packaging regulations.[1]

In Defra's guidance, packaging is defined as '*any material used to hold, protect, handle, deliver and present goods. This includes packaging for raw materials right through to finished goods to be sold or being sold.*'[1] It is important to note that the current EPR scheme is enforced across the UK, though is done so by the relevant national environmental regulators in England, Scotland, Wales and Northern Ireland. Wales and Scotland both have powers devolved to them whereby they could decide to opt for a different approach to that adopted in England in future.

2.0 Methodology

2.1 Data

2.1.1 Description of the Data

The data were collected by Surfers Against Sewage volunteers during the 2019 Big Spring Beach Clean. Volunteers were asked to submit information about a sample of the items they found during their beach clean to Surfers Against Sewage using an online form. The form recorded the brand of each item, which respondents could either select from a drop-down list of existing options or enter manually using an 'other' option. The dropdown list of brand options was amalgamated from the top 29 brands from the

---

[1] UK Government (2018), Packaging Waste: Producer Responsibilities. Available: https://www.gov.uk/guidance/packaging-producer-responsibilities

Surfers Against Sewage "Return to Sender Campaign" in 2010. Volunteers were asked to submit what could be considered an intermediate level of branding; for example, if a Cadbury *Flake* bar was found, "Cadbury" should be submitted as the brand.

Data were submitted from 229 cleans, though the number of items reported on varied greatly between submissions. A total of 49,413 items were recorded: 29,368 of these were unbranded items (not all cleans recorded these) and could not be considered in the main analysis. Some insight into the nature of these unbranded items is given in Section 3.2. The number of datasets submitted can be broken down by region, as shown in Table 1. Figure 1 and Figure 2 are photographs taken by volunteers during their beach cleans, providing an insight into the process of collecting, sorting and recording items.

Table 1: Number of Responses Submitted from each UK Region

Region	Number of Responses Submitted
Channel Islands	5
Midlands	15
North East	23
North West	14
Northern Ireland	4
Scotland	26
South	11
South East	28
South West	79
Wales	21
No Region Stated	3

Figure 1: A Surfers Against Sewage Volunteer Recording Information on Items

ANALYSIS OF BRANDED ITEMS FOUND ON UK BEACHES

Figure 2: Volunteers Sorting and Recording Branded Items

2.1.2   Limitations of the Data

While using citizen science as a method of data collection allows us to amass large amounts of data in a cost-effective manner, the data collected has some limitations associated with it owing to the lack of oversight regarding how data are collected and recorded. Inconsistencies in the data gathering process are an accepted characteristic of citizen science projects, and these can introduce an unavoidable level of uncertainty to collected data.

In this case, Surfers Against Sewage themselves sought to ensure consistency of recording through the instructions given to volunteers, but in practice, they had very little control over the items that volunteers chose to record from their findings. The guidance provided requested volunteers to record as many of the items they found as was possible, but no particular sample was stipulated.

For items which were manually entered into the form and not chosen from the drop-down list, there were multiple spelling errors, which occasionally made it difficult to recognise which brand the data was intended to be associated with. This was especially the case for brands with more generic names, such as smaller or local brands that share the same name as larger brands. Again, this could result in data points being more frequently attributed to the larger brands.

It is clear from the data that some volunteers have made estimates on the number of some smaller items found, by counting how many were found in one square metre of the beach and scaling the number up to cover the whole beach. This is particularly common for the unbranded items, and is discussed further in Section 3.2.

2.2   Analysis

The main stages of the analysis were as follows:

1) Reviewing the manually-entered data points, ensuring that there was one consistent spelling for each brand;
2) Removing data points related to unbranded items;
3) Mapping brands to their parent companies;
4) Calculating the total number of items found for each brand and for each parent company; and
5) Researching annual turnover for the top 50 parent companies.

The initial clean up of the data had to be undertaken manually, as there were so many different spellings of some brands that it was not possible to replace them all with one harmonised spelling without going through each one individually. Alphabetising the data made the process much faster, meaning most misspellings of a particular brand could be corrected together. Data on unbranded items were transferred to a separate database, to be analysed separately.

Once the data had been cleaned up, and grouped by brand, data points were sorted by the number of items recorded. At this stage, it was found that there were nearly 500 data points with only one or two items recorded. In total these accounted for only 606

pieces of branded items out of a total 20,045 (3%). Therefore, the decision was taken to omit data points with only one or two items from the subsequent analysis. This facilitated the process of mapping brands to parent companies, which was also undertaken as a manual task, with minimal impact to the final results.

When mapping brands to parent companies, in some cases it was necessary to make a decision about which level of parent company to use. For example, Bulmers and Strongbow ciders are both made by the company H.P. Bulmer, which in turn is owned by parent company Heineken International. In such cases, the ultimate parent company was used. In instances where a brand is owned by a different company in the UK or Europe compared to the rest of the world, the UK parent company is used. Again, to give an example, the main parent company of Burger King is Restaurant Brands International, but in the UK the fast-food brand is owned by Bridgepoint, so that is the company used in the analysis.

Annual turnover for the top 50 parent companies was investigated using Companies House, to which all registered companies in the UK must submit their annual financial accounts. It was assumed that these figures closely resemble ones used by regulators to determine whether or not a company is obligated under the EPR guidelines.

3.0 Results

3.1 Branded Items

A total of 20,045 branded items were submitted over the course of the Big Spring Beach Clean campaign. There were 799 brands which contributed to this total, though they were not equally represented: the 50 brands linked with the largest shares of the identified items accounted, collectively, for 83% of the total number of branded items.

496 of the brands had only one or two items associated with them and were not mapped to their parent companies. The remaining 303 brands were mapped to a total of 171 parent companies, the top 50 of which accounted for 92% of the branded items, as illustrated in Figure 3. The data are characterised by the majority of items found being linked to a small number of parent companies . This is further demonstrated in Figure 4, which shows the percentage contributions of the top 50 parent companies to the total number of branded items.

The relationship between the 5 parent companies linked with the largest shares of the branded items and the relative contributions of their respective brands is shown in Figure 5. This figure helps to visualise how, even within each of the parent companies' shares, each has one specific brand that accounts for between 75% and 100% of its total share of branded items.

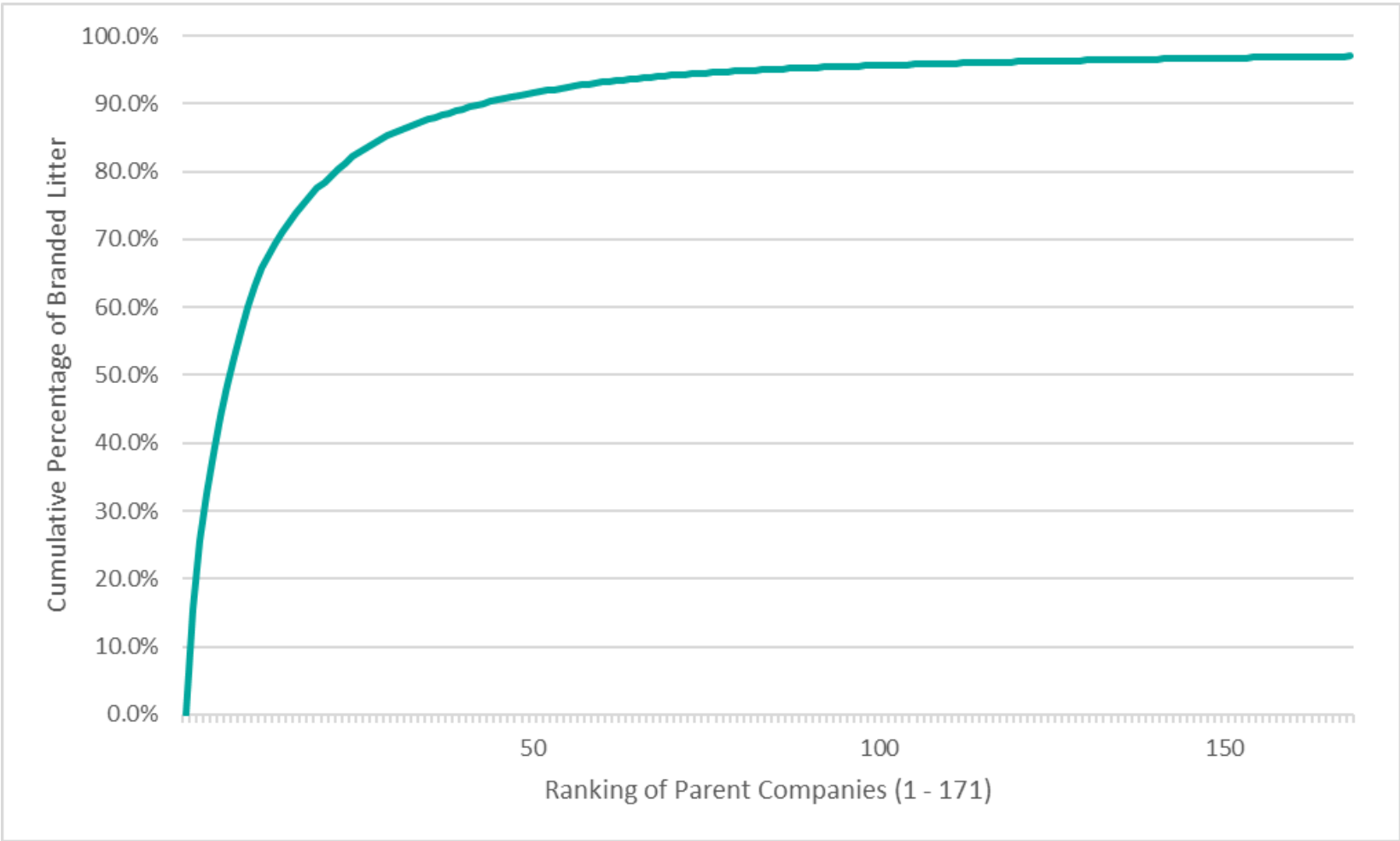**Figure 3: Cumulative Percentage of Branded Items for All Parent Companies Analysed**

Figure 4: Percentage of All Branded Items Associated with 50 Parent Companies with Largest Shares of the Total
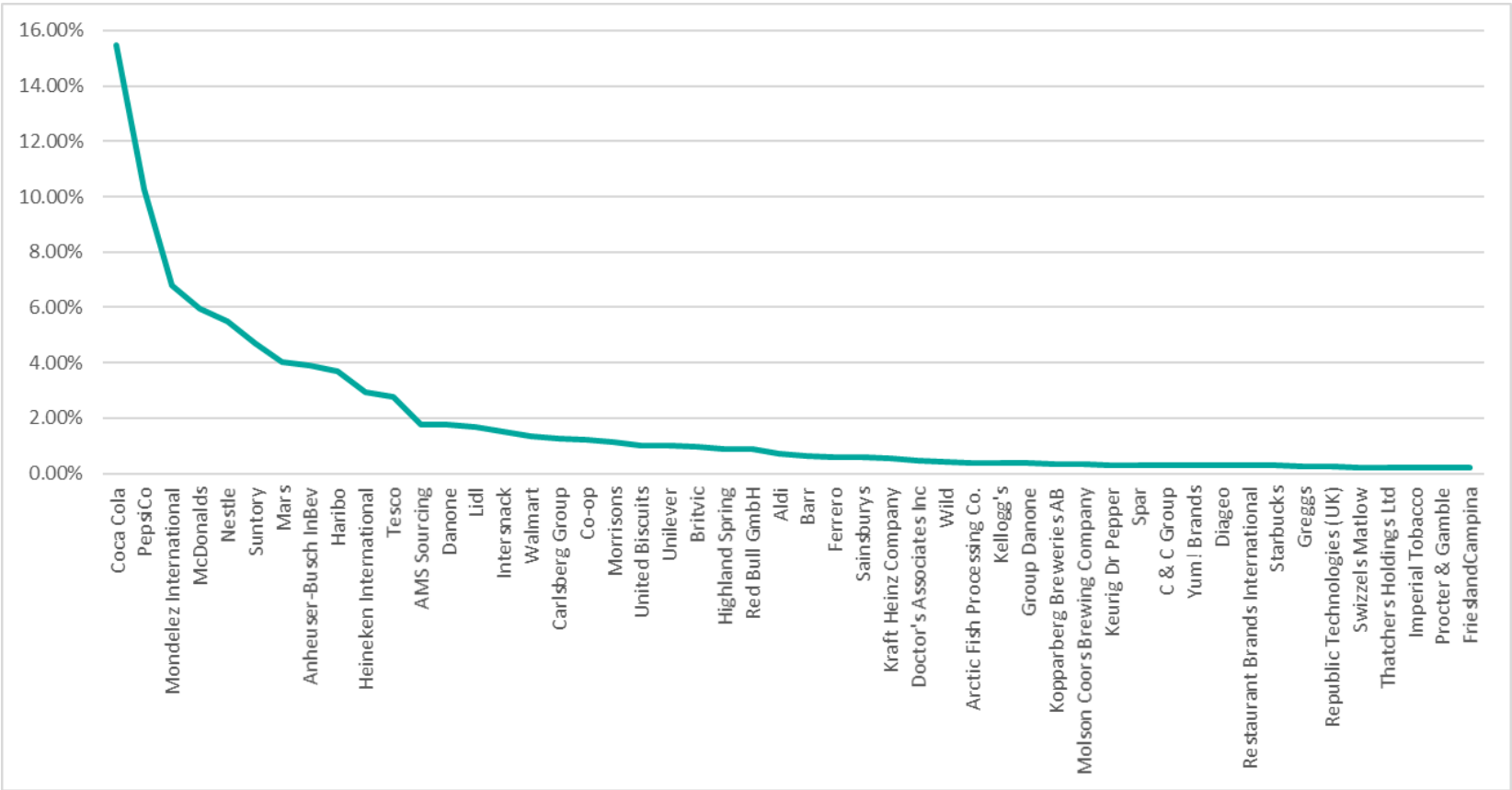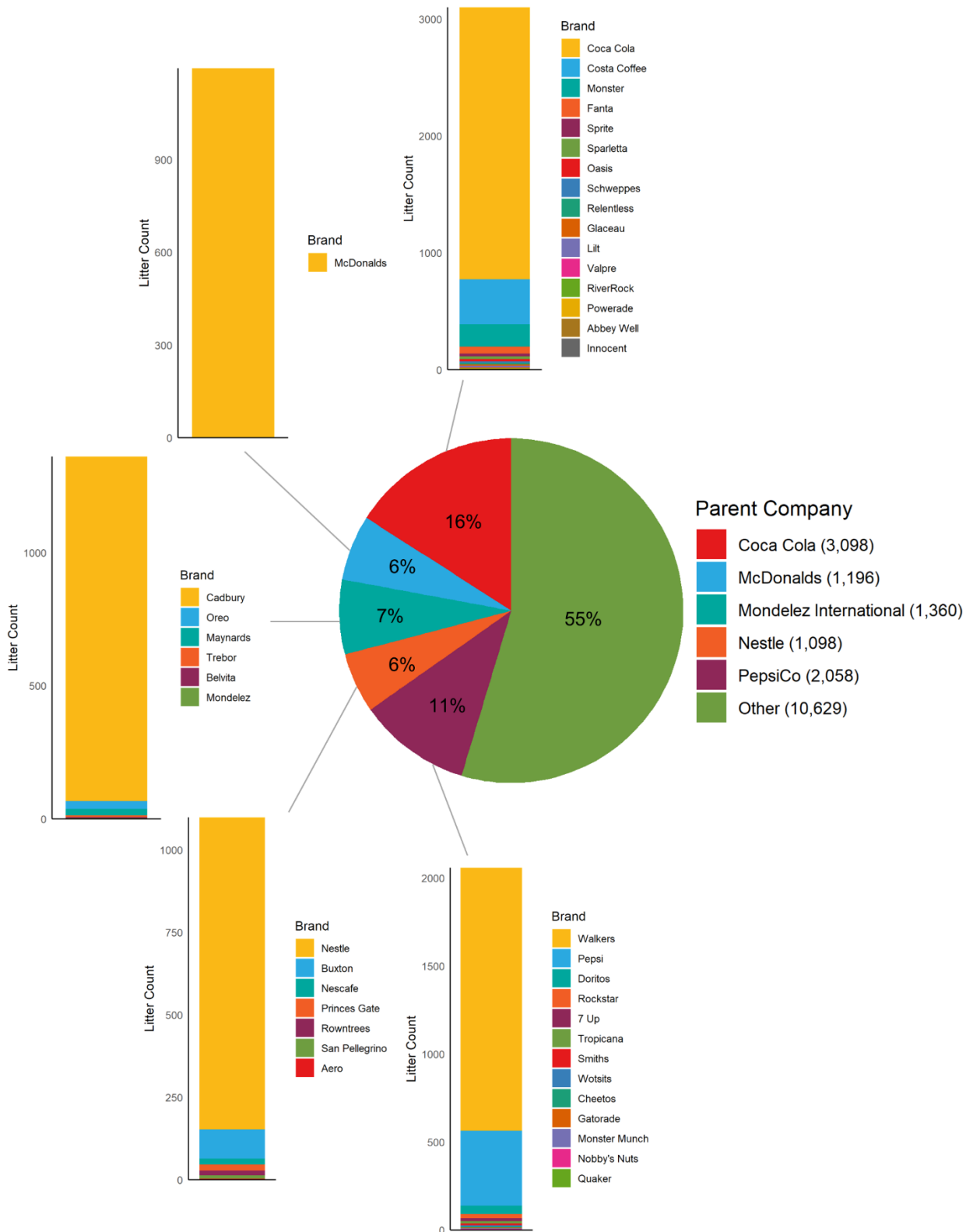
Table 2 and Table 3 respectively show the 50 brands and parent companies for which the largest numbers of branded items were found. Finally, Table 4 shows the 10 parent

companies linked with the largest shares of the branded items found on each region's beaches in the UK. There is some variation between regions, but largely the same patterns are seen across the UK.

Table 2: The 50 Brands Responsible for the Largest Shares of the Total Number of Branded Items

Ranking	Brand	Item Count	% of All Items	Ranking	Brand	Item Count	% of All Items
1	Coca Cola	2,323	11.6	26	Carlsberg	171	0.85
2	Walkers	1,494	7.45	27	McVities	164	0.82
3	Cadbury	1,293	6.45	28	Aldi	145	0.72
4	McDonalds	1,196	5.97	29	Strongbow	141	0.70
5	Nestle	946	4.72	30	Sainsburys	118	0.59
6	Lucozade	881	4.40	31	Robinsons	101	0.50
7	Mars	726	3.62	32	Heinz	98	0.49
8	Haribo	663	3.31	33	Kinder	97	0.48
9	Tesco	542	2.70	34	Subway	92	0.46
10	Pepsi	425	2.12	35	Walls	92	0.46
11	Heineken	400	2.00	36	Buxton	88	0.44
12	Costa Coffee	385	1.92	37	Capri Sun	84	0.42
13	Euro Shopper	355	1.77	38	Arctic Fish Processing Co.	80	0.40
14	Lidl	316	1.58	39	Maoam	77	0.38
15	Evian	279	1.39	40	Volvic	75	0.37
16	Asda	266	1.33	41	Kellogg's	70	0.35
17	Stella Artois	246	1.23	42	Kopparberg	68	0.34
18	Budweiser	244	1.22	43	Carling	61	0.30
19	Co-op	236	1.18	44	Fanta	60	0.30
20	KP	225	1.12	45	Spar	60	0.30
21	Morrisons	224	1.12	46	KFC	59	0.29
22	Fosters	223	1.11	47	Burger King	57	0.28
23	Monster	193	0.96	48	Dr Pepper	57	0.28
24	Highland Spring	182	0.91	49	Starbucks	57	0.28
25	Red Bull	176	0.88	50	Danone	55	0.27

Table 3: The 50 Parent Companies Responsible for the Largest Shares of the Total Number of Branded Items

Ranking	Parent Company	Item Count	% of All Items	Ranking	Parent Company	Item Count	% of All Items
1	Coca Cola	3,098	15.5	26	Barr	128	0.64
2	PepsiCo	2,058	10.3	27	Ferrero	118	0.59
3	Mondelez International	1,360	6.78	28	Sainsburys	118	0.59
4	McDonalds	1,196	5.97	29	Kraft Heinz Company	109	0.54
5	Nestle	1,098	5.48	30	Doctor's Associates Inc	92	0.46
6	Suntory	938	4.68	31	Wild	84	0.42
7	Mars	808	4.03	32	Arctic Fish Processing Co.	80	0.40
8	Anheuser-Busch InBev	763	3.81	33	Kellogg's	80	0.40
9	Haribo	740	3.69	34	Group Danone	75	0.37
10	Heineken International	592	2.95	35	Kopparberg Breweries AB	68	0.34
11	Tesco	556	2.77	36	Molson Coors Brewing Company	68	0.34
12	AMS Sourcing	355	1.77	37	Keurig Dr Pepper	60	0.30
13	Danone	350	1.75	38	Spar	60	0.30
14	Lidl	335	1.67	39	C & C Group	59	0.29
15	Intersnack	300	1.50	40	Yum! Brands	59	0.29
16	Walmart	266	1.33	41	Diageo	57	0.28
17	Carlsberg Group	255	1.27	42	Bridgepoint	57	0.28
18	Co-op	241	1.20	43	Starbucks	57	0.28
19	Morrisons	224	1.12	44	Greggs	52	0.26
20	United Biscuits	200	1.00	45	Republic Technologies (UK)	51	0.25
21	Unilever	199	0.99	46	Swizzels Matlow	43	0.21
22	Britvic	190	0.95	47	Thatchers Holdings Ltd	42	0.21
23	Highland Spring	177	0.88	48	Imperial Tobacco	41	0.20
24	Red Bull GmbH	176	0.88	49	Procter & Gamble	40	0.20
25	Aldi	145	0.72	50	FrieslandCampina	39	0.19

ANALYSIS OF BRANDED ITEMS FOUND ON UK BEACHES

Table 4: 10 Parent Companies Responsible for Largest Shares of Total Number of Branded Items in each Region of the UK

|	Channel Islands	Midlands	North East	North West	Northern Ireland	Scotland	South	South East	South West	Wales
1	Coca Cola	Coca Cola	Coca Cola	PepsiCo	Mondelez International	Coca Cola	Nestle	Coca Cola	Coca Cola	Coca Cola
2	Mars	PepsiCo	PepsiCo	Coca Cola	Coca Cola	PepsiCo	McDonalds	PepsiCo	PepsiCo	Suntory
3	PepsiCo	AMS Sourcing	Mondelez International	McDonalds	PepsiCo	Suntory	Haribo	Mondelez International	Mondelez International	PepsiCo
4	Nestle	Heineken International	Anheuser-Busch InBev	Mondelez International	Mars	Mondelez International	Coca Cola	Tesco	McDonalds	Mondelez International
5	Mondelez International	Suntory	McDonalds	Nestle	Nestle	Haribo	PepsiCo	Mars	Anheuser-Busch InBev	Anheuser-Busch InBev
6	Ferrero	Danone	Suntory	Suntory	Aldi	Nestle	Mondelez International	Suntory	Lidl	Mars
7	Republic Technologies (UK)	McDonalds	Mars	Morrisons	Group Danone	Barr	Mars	Nestle	Haribo	Heineken International
8	Starbucks	Mondelez International	Nestle	Danone	Haribo	Tesco	Britvic	Danone	Mars	Tesco
9	Intersnack	Nestle	Haribo	Mars	Suntory	Arctic Fish Processing Co.	Intersnack	McDonalds	Suntory	Nestle
10	Suntory	Anheuser-Busch InBev	Red Bull GmbH	Haribo	Intersnack	Highland Spring	Tesco	Haribo	Tesco	McDonalds

3.2 Unbranded Polluted Items

The focus of the campaign was on branded items that are polluting beaches, though the volume and items within the unbranded category provide some additional insight into the items polluted on the UK's beaches. Examples of such items include cigarette butts, straws, plastic bags, broken plastic and rope. The total number of recorded unbranded items was 29,368. As respondents were asked only to record branded items, not all datasets recorded any unbranded items.

The quality of submissions for unbranded polluted items was lower than for branded items, which has resulted in higher uncertainties for this section. For instance, one submission included 20,000 'blue string bands'. The quantity and imprecise description of the submission has resulted in this being treated as an anomaly, and so was omitted from further analysis.

The largest categories in the remaining 9,368 items included plastic cotton buds (3,015), cigarette butts (2,078), bottle tops (522) and wet wipes (313). The data show that the majority of unbranded polluted items are accounted for by a relatively small number of item categories, as demonstrated in Figure 6.

Figure 6: Unbranded Items
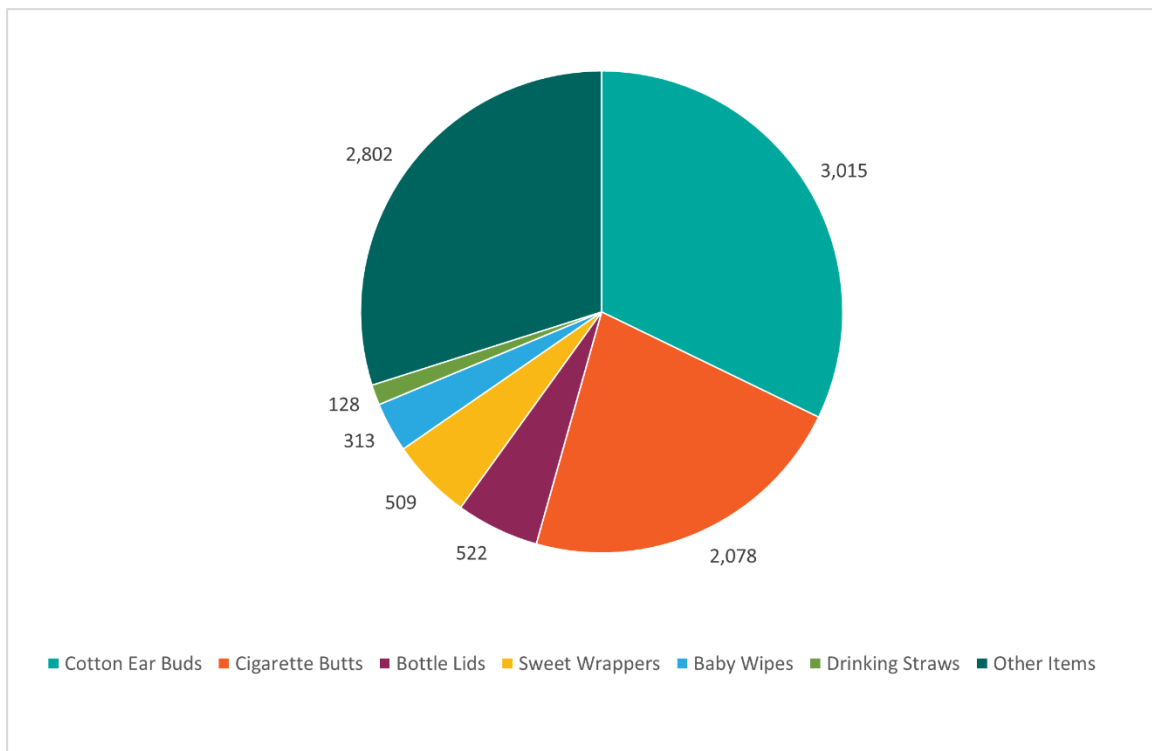
Uncertainty is compounded further due to discrepancies in how respondents have recorded the unbranded data, arising from different interpretations of what an 'item' is. For instance, one survey filled a plastic bag with fishing lines that were found and recorded this as one item. A similar method was also used for Styrofoam fragments and

other plastic fragments. Other surveys have recorded lines and fragments as individual items.

It also seems that surveys have used different approaches to estimating polluted items over the whole beach area, with some using a sample quadrant which has been multiplied by the beach area. The uncertainties that this incurs are significant, with no information on the number of sample quadrants used, nor their representativeness. Equally, the beach area that was used is not provided. It is not clear whether this was above or below hightide marks, a factor which would have a considerable influence on the results.

Therefore, while the unbranded items section gives some interesting insight into the nature of the unbranded items found on the UK's beaches, the uncertainties and methodological inconsistencies limit the reliability of the results.

4.0   Discussion

4.1   Discussion of Results

The results suggest that the parent companies that of the branded items accounting for the majority of the items found on UK beaches are predominantly large, multinational corporations with a large brand portfolio to their name. The 50 with the largest shares are largely food and beverage producers – including supermarkets and producers of fast-foods, alcoholic beverages, confectionary and snacks – but a number of tobacco companies and companies with a wider brand portfolio, such as Unilever, also fall within this group.

Since the survey asked volunteers specifically to report on branded items, it follows that there will have been large numbers of unbranded items which were not recorded so this cannot be taken as an indication of the frequency of all items found on beaches (indeed, some datasets did, whilst others did not, record unbranded items). The nature of the unbranded items should be taken into consideration in the context of EPR schemes that are designed to ensure that producers bear responsibility for the pollution they cause. The quality of data on unbranded items required for this purpose is higher than reported in this analysis.

The list of the top 50 brands is useful for creating some distinctions which are lost by looking at parent companies alone. For example, 95% of the items attributed to Mondelez International are Cadbury wrappers. Walkers Crisps account for almost three-quarters of the items attributed to PepsiCo – not plastic beverages bottles as might be expected. Costa Coffee, which was recently acquired by the Coca Cola company, makes up 12.4% of the parent company's items.

4.2 EPR Guidelines

4.2.1 Size thresholds

The current EPR guidelines define obligated producers using a de-minimis threshold: "businesses that handle over 50 tonnes of packaging annually and have an annual turnover over £2 million".[2] Businesses that fall below the threshold are not obligated under the packaging regulations unless they are a subsidiary of a larger parent company. It is specified that, in the case of parent companies and subsidiaries, it is the total annual packaging handled and turnover of the parent company – including all of its subsidiaries combined – to which the threshold applies.

As is shown in Figure 4, the 50 parent companies accounting for the greatest shares of the branded items account for 91.6% of them. Every company in this grouping has an annual turnover far greater than the £2 million threshold. It is also considered that most, or possibly all of the brands in the subsequent 50 ranked companies would also have a turnover of greater than £2 million. The 100 parent companies accounting for the greatest shares of the branded items account for 95.6% of the branded packaging pollution. Unfortunately it was not possible to ascertain whether all companies would be above the 50 tonnes / £2 million turnover threshold. Indeed, the dearth of publicly available information in this regard is indicative of a lack of transparency in the system at present. Nonetheless, the data suggest that the vast majority of branded items found on UK beaches are linked to companies already obligated under the existing system of producer responsibility (i.e. if there are branded items associated with companies who fall below the de minimis threshold, then the proportion accounted for by those companies is very small). If the data collected under the surveys have some inherent bias associated such that better-known brands are over-represented, than it could be that smaller companies are under-represented in our analysis. Whether or not this is the case, there remains a case for lowering the de-minimis threshold, if only to ensure that the data being reported to the relevant agencies are more accurate. The move to more complete coverage of the costs of dealing with the branded packaging items ought also to ensure that those responsible for the greatest shares of items pay accordingly, including in relation to the clean-up of the items found on streets, in rivers, and on beaches.

4.2.2 Transparency

The transparency of packaging production data could clearly be improved. All obligated companies must report the quantity of packaging they handle each year to the relevant environmental regulator, so the data are available but they are not currently publicly accessible. If producers were required to disclose this information publicly each year,

---

[2] Department for Environment, Food and Rural Affairs, Welsh Government, Scottish Government, and Department of Agriculture, Environment and Rural Affairs (2019) Consultation on reforming the UK packaging producer responsibility system

including the material composition, this would enable better tracking of materials flows, and enable the main users of plastics to be identified. It would be of interest, for example, to know whether the parent companies', or the brands', shares of items found on beaches are broadly in line with levels of use, for example.

These data should be used to ensure that producers are paying their fair share not only for the costs of collection and sorting for recycling, but also for the costs associated with managing the share of their packaging in residual (black bag) waste, as well as for litter collection, clean-up and treatment or . Currently it is estimated that producers pay only 10% of the recycling costs, which translates to much less than 10% of all waste management costs (when residual waste management and the costs of dealing with litter are taken into account). [3] For scale, DEFRA's consultation states that:

> *"In 2016/2017 it cost local authorities in England £682 million to keep the streets clean; it cost Welsh local authorities £54 million in 2017/1827 and Scottish local authorities £53 million in 2014."[4]*

These costs are all currently out of scope of the existing packaging regulations. Defra's consultations indicate that there is an intention to include them in future. This might incentivise investment in measures to prevent pollution, or encourage the development of business models based on refillables rather than disposables.

4.2.3 Reducing the Flow of Items onto Beaches

Reducing the flow of items onto beaches would be helpful. Approaches might include a Deposit Return Scheme (DRS), these having already proved successful in a number of countries elsewhere in Europe, or, as noted above, the promotion of the use of refillables (for example, using taxes on disposables, such as single-use cups, or promoting use of water fountains / refill networks). A well-designed DRS targets high rates of return by incentivising consumers with a refundable deposit, supported by a convenient returns infrastructure: such an approach has the potential to deliver high quality material streams. Provision of alternative services or products to encourage re-use, and refill schemes might also be encouraged by improved coverage of costs under EPR.

---

[3] Bio by Deloitte (2014) Development of Guidance on Extended Producer Responsibility, Final Report to DG Environment of the European Commission
http://ec.europa.eu/environment/waste/pdf/target_review/Guidance%20on%20EPR%20-%20Final%20Report.pdf
[4] *https://consult.defra.gov.uk/environmental-quality/consultation-on-reforming-the-uk-packaging-produce/supporting_documents/packagingeprconsultdoc.pdf*>

5.0   Summary

To summarise, the vast majority of the branded items reported by volunteers from their 2019 Big Spring Beach Clean events and surveys are items originating from a small number of parent companies. The main types of branded item found are items of food and beverage packaging: of the non-branded items, although the data are not so reliable, the main items are cigarette butts, sweet wrappers, cotton buds, baby wipes and bottle lids.

With respect to annual turnover, the companies whose packaging is most frequently found on beaches are all obligated under the packaging waste regulations at the current threshold for obligation. Given the nature of their businesses, it is assumed that they would also meet the packaging threshold of 50 tonnes per year, though transparent data on packaging is not currently publicly available. Although the current de-minimis threshold means that the majority of branded items reported the surveys are covered by the existing producer responsibility scheme, there are reasons – to do with the quality of reporting – to lower the threshold further. Furthermore, many of the changes to the existing system of producer responsibility being mooted in Defra's consultation relate to the coverage of costs for which producers should be made responsible. Ensuring producers bear the full costs of managing packaging, whether it is collected for recycling, collected as residual waste, collected in street bins, or collected as part of clean-up activities, would be welcome, and could help incentivise refill schemes instead of the use of disposables. A DRS could also help stem the flow of drinks containers into rivers and seas: branded drinks packaging remains a prominent component of branded items found on beaches, whilst bottle lids were also relatively significant in the list of unbranded items, albeit we consider this data to be less representative of the true situation than that for the branded items.