# Australian Litter Measure

## LITTER SURVEY
## Perth Metropolitan Area
## 2022 - 2023

Perth NRM

GOVERNMENT OF WESTERN AUSTRALIA

WASTE AUTHORITY
WA...TOO GOOD TO WASTE

Keep Australia Beautiful WA

# Contents

# Executive Summary

This report summarises the findings of Australian Litter Measure litter surveys completed across the Perth metropolitan area during the 12 months to June 2023.

For this period, across 104,876 square metres surveyed, 17,195 items of litter were counted, with a calculated volume of 1,129 litres.

**Cigarette Butts and Filters** were found to be the most common item by count, while **Tyres** were the highest item by volume. **Plastic** represented the highest material found by count (57%) and volume (28%).

Industrial and Main Road sites contained the highest levels of litter observed, while Beaches had the lowest.

In this report litter data has been provided by site types and key categories to establish a basis for trend analysis under this newly developed litter count method.

This is the third full litter count conducted using this method.

# About Perth NRM

Perth NRM is a not-for-profit organisation, in the natural resources management (NRM) sector.

Perth NRM has successfully partnered with industry groups, local, state and federal government departments, educational institutions, and land care groups to promote long-term outcomes in water quality, biodiversity enhancement, healthy coastal environments, cultural heritage preservation and sustainable agricultural practices.

Through collaborative natural resource management initiatives, we contribute to the social, economic, and environmental well-being of the Perth region.

**Our purpose**: Empowering people to positive ecological impact.

**Our vision**: We live in thriving natural ecosystems with sustainable food production.

# 1. Project Summary

The Australian Litter Measure ("AusLM") is a newly developed litter count method, designed to capture high volumes of standardised litter data across all states of Australia.

In May 22 an initial baseline litter survey was completed by Perth NRM utilising this method, which served to identify key items and indicators for litter in the Perth metropolitan area.

Following this initial survey, Keep Australia Beautiful Council ('KABC') has engaged Perth NRM for a continuous Litter Survey that is scheduled twice a year over a three-year period. These litter surveys will help to identify trends in litter levels, as well as assist KABC to track the efficacy of its programs.

The full findings of the November 22 and May 23 litter surveys are contained in this report. Reports from previously completed litter surveys (including the May 22 baseline litter survey) can be obtained from the Keep Australia Beautiful WA website.

## Scope

Over a two-week period in both November 22 and May 23, litter surveys were conducted at 57 sites across ten local government jurisdictions within the Perth Metropolitan area. The litter surveys were completed following the guidelines contained in the AusLM Field Guide. The guide defines six distinct site types where surveys should be undertaken, summarised in the below table.

The guide also prescribes the relevant parameters for the area to survey at each of the site types, and the number of transects (straight lines where litter counting is undertaken) to survey. In most cases, one of each site type was surveyed in each local government area.

| Site type | Description |
|---|---|
| Beach | A mostly sandy beach frequently visited by people for activities such as swimming, walking, other recreation and relaxation. |
| Residential area | A street/collection of streets in a residential area. The street has homes, units, or apartments on both sides of the street. |
| Industrial area | A street/collection of streets in an industrial area. |
| Retail area | A street/collection of streets within a retail precinct (i.e., shopfronts). |
| Recreational park | A public outdoor park mostly covered by grass and frequently visited by individuals and families for recreation and leisure activities. |
| Main roads | Straight open stretches of sealed road with wide verges. Roads that typically act as an arterial for traffic between and around population centres. |

The total number of sites, and transects surveyed within each site is summarised below.

| Locations | Number of sites | Transects |
|---|---|---|
| LGA 01 | 6 | 28 |
| LGA 02 | 5* | 23 |
| LGA 03 | 6 | 28 |
| LGA 04 | 6 | 28 |
| LGA 05 | 5* | 23 |
| LGA 06 | 6 | 28 |
| LGA 07 | 6 | 28 |
| LGA 08 | 6 | 28 |
| LGA 09 | 5* | 23 |
| LGA 10 | 6 | 28 |
| Total | 57 | 265 |

*Three local government areas did not include a Beach or suitable alternative site (river or coastal) within their boundary, hence those locations only included five sites.*

## Survey Methodology

KABC selected the 57 sites to be surveyed based on the AusLM Site Type assessment criteria (attached at Appendix 1).

Perth NRM engaged a team of litter surveyors to complete the periods of surveys. Prior to undertaking the surveys, the team received comprehensive theory and field-based training in the AusLM method.

The litter surveyors conducting the surveys worked in pairs, completing one site per team, per day. Data was collected on tablet devices, on an Excel workbook created by KABC. Litter observed was classified based on the 247 items in the count sheet in the current AusLM Field Guide (refer Appendix 2).

Both team members set up the transects and collected site context information (to determine whether certain factors had an impact on the litter levels, such as the presence of waste and recycling bins, BBQ areas in parks and council bin days). For the litter counting, one "spotter" called out the items observed, while the other surveyor recorded the data into the workbook.

Perth NRM has undertaken the data collation, review and analysis of the final findings and compilation of the written report.

## Measurement Methodology

AusLM uses a standing stock visual litter count. This method was chosen as the most appropriate way of answering questions about broad trends and achievements at the jurisdictional scale. Under this method, litter items are counted and categorised in a defined area and litter is left in place. It is a relatively fast and cost-effective method that indicates the extent and composition of litter at a site at a point in time.

## Data Calculation Basis

The following calculations have been utilised throughout the report:

| | |
|---|---|
| **Number of items (#)** | total number of individual items counted |
| **Items (#) per 1000m$^2$** | $\dfrac{\text{total number of individual items counted}}{\text{total square metres surveyed}} \times 1000$ |
| **Volume – litres (l)** | total number of individual items counted x standard volume per item* |
| **Volume (l) per 1000m$^2$** | $\dfrac{\text{total number of individual items counted} \times \text{standard volume per item}}{\text{total square metres surveyed}} \times 1000$ |

*The estimated standard volume for each item is attached at Appendix 3.*

## Data Periods Presentation

This report contains two periods of survey data. Colours have been used to identify when tables/graphs include data from a discrete period, specifically;

**Blue headers/tables** contain data for November 2022.
**Orange headers/tables** contain data for May 2023.
**Green headers/tables** indicate data for the two surveys has been aggregated (average of the two periods), and is referenced as annual or 2022/23

# 2.0 Overall Litter Data

Aggregated litter data for 2022/23 year is provided below, with more detailed commentary on the individual survey periods provided later in this section.

| ANNUAL LITTER DATA | | | | | |
|---|---|---|---|---|---|
| | Total Area Surveyed | Total Litter Items | Litter Items /1000m$^2$ | Total Litter Volume (l) | Litter Volume (l)/1000m$^2$ |
| 2022/23 | 104,876 | 17,195 | 163.95 | 1,129.24 | 10.77 |
| May 2022 baseline | 104,726 | 18,245 | 174.22 | 1,145.65 | 10.94 |

| 2022/23 SUMMARY DATA – BY SITE TYPE | | | | | |
|---|---|---|---|---|---|
| Site Type | Total Area Surveyed | Total Litter Items | Litter Items /1000m$^2$ | Total Litter Volume (l) | Litter Volume (l)/1000m$^2$ |
| Beach | 6,830.13 | 180 | 26.35 | 15.52 | 2.27 |
| Retail | 13,131.00 | 3,035 | 231.09 | 185.95 | 14.16 |
| Residential | 34,162.40 | 2,166 | 63.40 | 138.85 | 4.06 |
| Industrial | 21,234.05 | 5,324 | 250.71 | 382.43 | 18.01 |
| Park | 10,708.95 | 987 | 92.21 | 40.52 | 3.78 |
| Main Road | 18,809.50 | 5,503 | 292.56 | 365.98 | 19.46 |
| | 104,876.03 | 17,195 | 163.95 | 1,129.24 | 10.77 |

- The top litter item by count in 2022/23 was **Cigarette butts and filters**, followed by **Hard plastic fragment – small** and **Paper and card fragment – small**. By volume, **Tyres** topped the list in 2022/23, followed by **Paper and card food packaging** and **Clothing**.

- By count, **Main Roads** were the highest littered site, with **Industrial** a close second. By volume, **Industrial** ranks highest, driven by a high level of bulky items such as **Tyres** and **Clothing** at this site type. Further detail on litter level by site type is contained in *Section 3.0 Litter Data by Site Type*.

- Of all litter items counted in 2022/23, 57% were made of **Plastic** (including Hard Plastic, Soft Plastic and Fragments). From a volume perspective, **Plastic** items accounted for 28% of the litter, with **Paper and Card** the second largest contributor, at 25% of total volume.

## LITTER COUNT BY SOURCE MATERIAL



| | |
|---|---|
| 57% | PLASTIC |
| 19% | PAPER AND CARD |
| 7% | METAL |
| 7% | OTHER MATERIALS |
| 4% | GLASS |
| 2% | POLYSTYRENE |
| 2% | RUBBER |
| 2% | CLOTH |
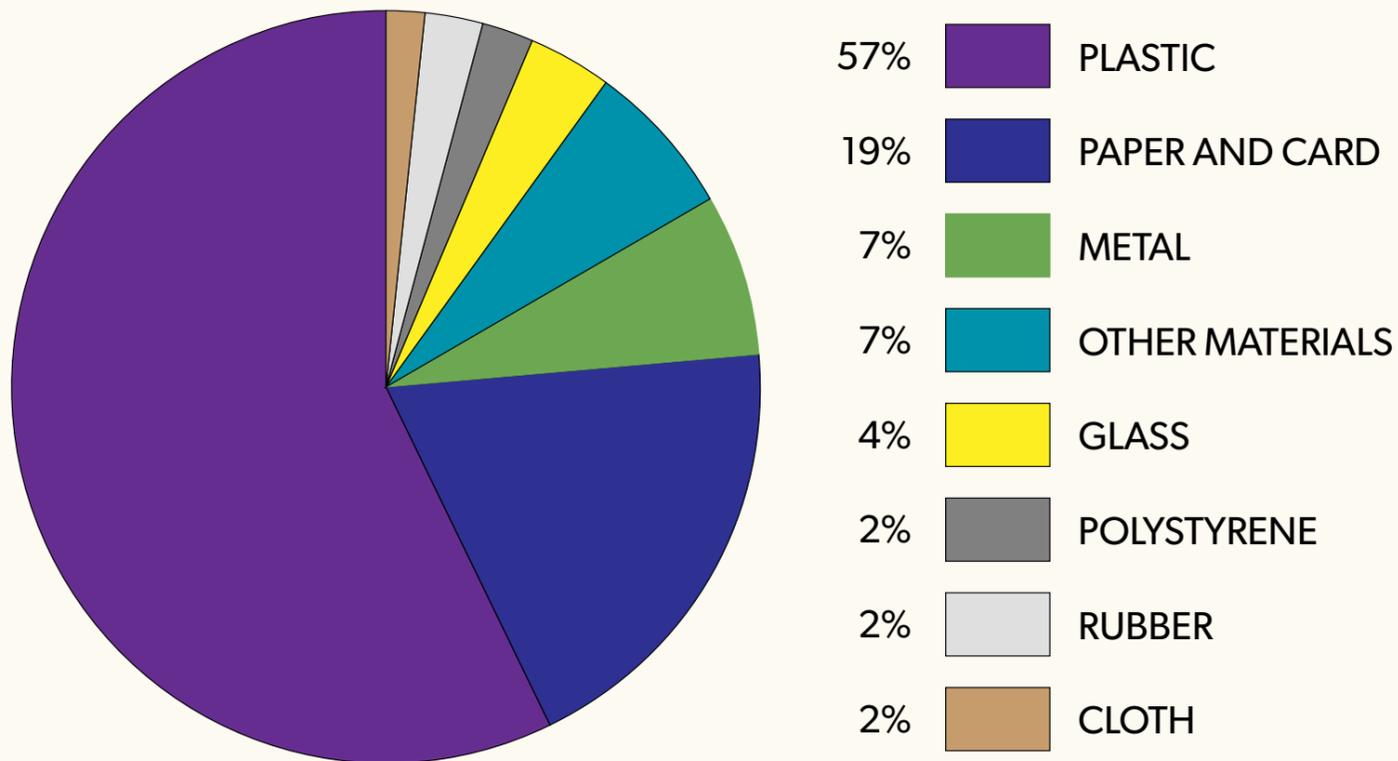
## LITTER VOLUME BY SOURCE MATERIAL



| | |
|---|---|
| 28% | PLASTIC |
| 25% | PAPER AND CARD |
| 8% | METAL |
| 12% | OTHER MATERIALS |
| 2% | GLASS |
| 4% | POLYSTYRENE |
| 14% | RUBBER |
| 7% | CLOTH |
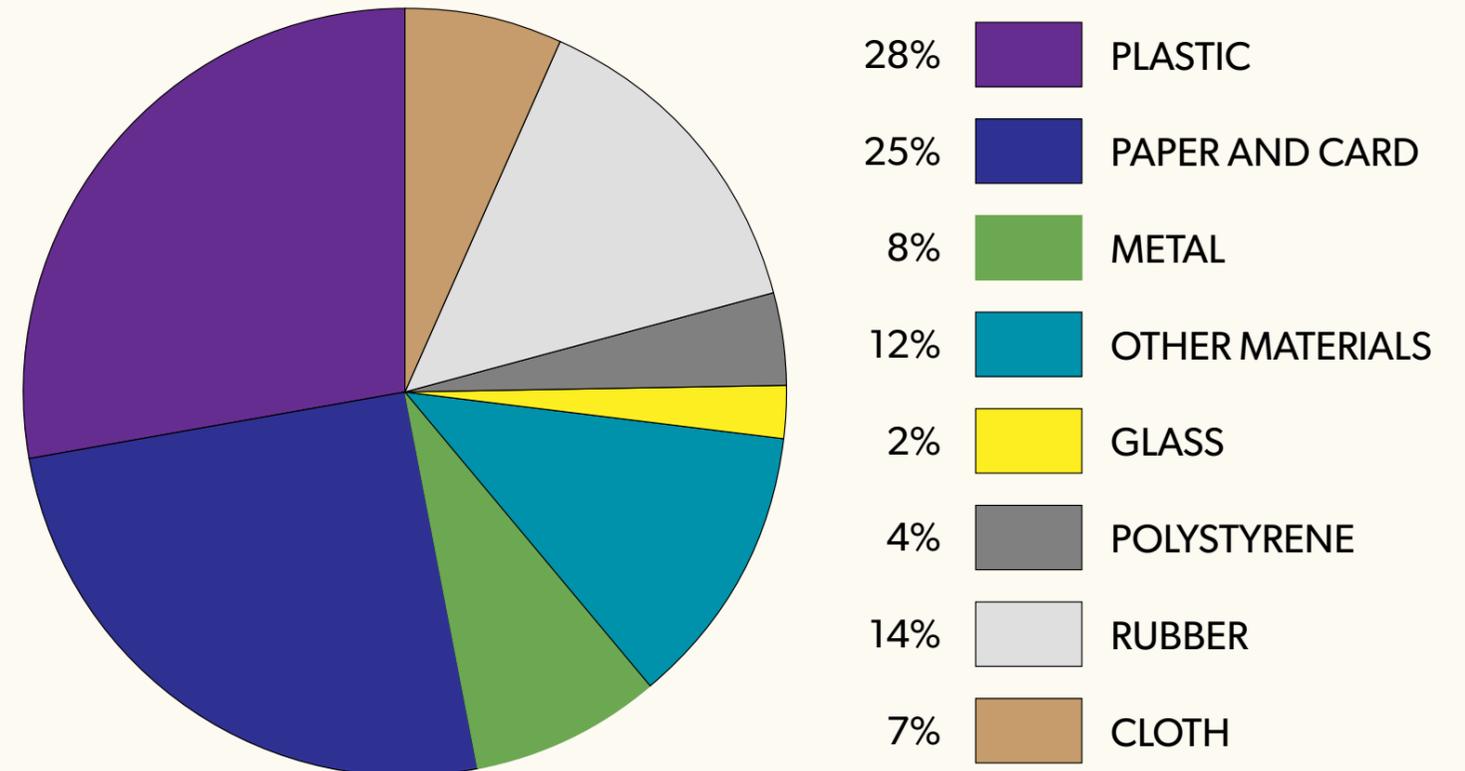
# Top 15 Items

## Top 15 Items by Count

| Item | Number of Items | Items /1000m² |
|---|---|---|
| Cigarette butts and filters | 3,456 | 32.95 |
| Hard plastic fragment - small | 1,715 | 16.35 |
| Paper and card fragment - small | 1,620 | 15.44 |
| Soft plastic fragment - small | 988 | 9.42 |
| Food/confect. Wrappers | 979 | 9.33 |
| Glass fragment - small | 528 | 5.03 |
| Hard plastic fragment - medium | 397 | 3.79 |
| Lids - Beverage container lids /caps | 331 | 3.16 |
| Paper tissues/napkin | 327 | 3.12 |
| Lids, bottle tops, can ring pulls | 324 | 3.08 |
| Paper and card fragment - medium | 295 | 2.81 |
| Aluminium foil wrap | 295 | 2.81 |
| Polystyrene fragment - small | 293 | 2.79 |
| Tape/narrow soft plastic film | 282 | 2.68 |
| Paper/card food packaging | 257 | 2.45 |

## Top 15 Items by Volume

| Item | Total Volume (l) | Volume (l)/1000m² |
|---|---|---|
| Tyres | 150.00 | 1.43 |
| Paper/card food packaging | 128.25 | 1.22 |
| Clothing | 56.00 | 0.53 |
| Food/confect. Wrappers | 48.95 | 0.47 |
| Construction materials | 42.66 | 0.41 |
| Rope/string | 33.80 | 0.32 |
| Packages & boxes | 31.25 | 0.30 |
| Aluminium foil wrap | 29.45 | 0.28 |
| Non-Food package | 26.25 | 0.25 |
| Insulation & Packaging | 25.00 | 0.24 |
| Other Food Package | 22.25 | 0.21 |
| Other metal item | 21.65 | 0.21 |
| Other plastic item | 20.85 | 0.20 |
| Strapping band | 20.70 | 0.20 |
| Other cloth item | 20.70 | 0.20 |

# General Data Commentary and Key Findings

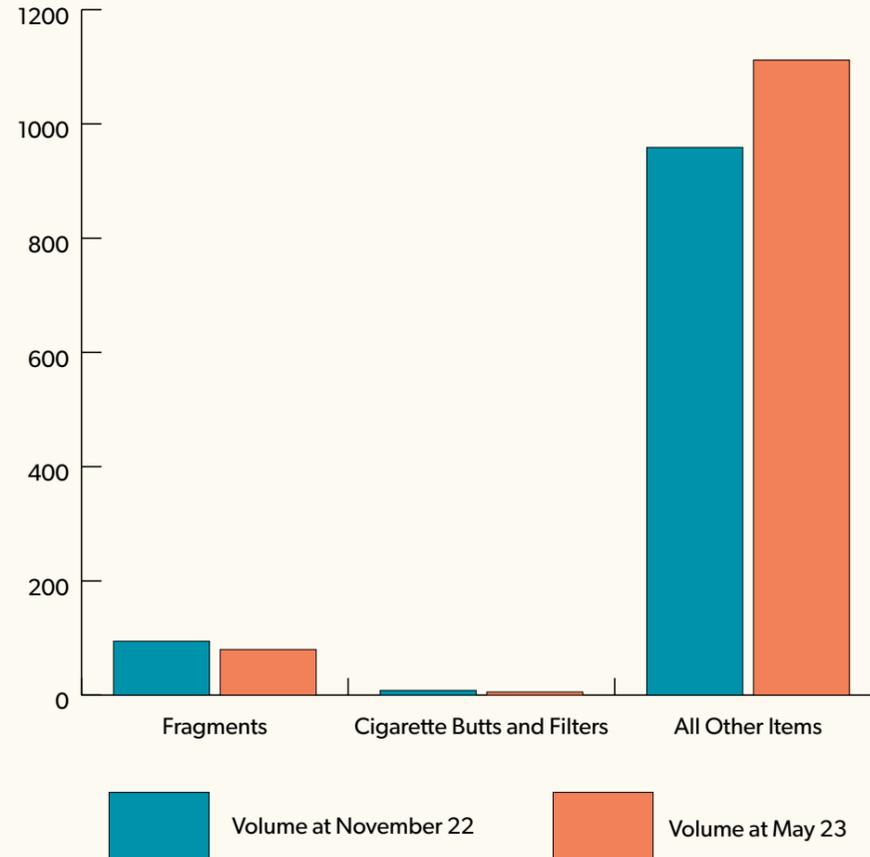Findings of the distinct survey periods of November 22 and May 23 are discussed below.

| 2022/23 Summary Data – By Survey Period | | | | | |
|---|---|---|---|---|---|
| | Total Area Surveyed | Total Litter Items | Litter Items /1000m2 | Total Litter Volume (l) | Litter Volume (l)/1000m2 |
| May 23 | 104,908.40 | 15,203 | 144.92 | 1,196.91 | 11.41 |
| November 22 | 104,843.66 | 19,186 | 183.00 | 1,061.58 | 10.13 |

- In the November 22 survey, Main Roads were the sites in which most litter was recorded by count (6,511) and volume (368.74 litres). The count varied highly from 113 items to 1,657 items per site, highlighting that a couple of sites have driven the high litter levels for this site type. Industrial sites contained the second highest litter levels (5,413 items / 298.92 litres), with a smaller range of 147 to 1,069, indicating the elevated litter levels are a more consistent trend across these sites.

- In the May 23 survey, Industrial sites recorded the highest litter by count (5,234 items) and volume (465.93 litres). Whilst the litter count at Industrial sites remained relatively comparable between the periods, the calculated volume increased significantly, driven by an increased number of bulky items, such as **Tyres** and **Clothing** recorded at this site type in May 23.

- In November 22, Beaches and Parks were the least littered sites, by count and volume, together accounting for only 7.77% of the total litter items by count and 5.88% by volume. This trend continued in May 23, together accounting for just 5.56% of the items counted, or 4.15% of the volume.

- In November 22, the highest litter item by count was **Cigarette butts and filters** totalling 4,161 or 21.69% of the total items. By volume, cigarette butts accounted for 0.78% of the total. Cigarette butts and filters remained the highest litter item by count in May 23, with 2,751 recorded, accounting for 18.09% of total items. They were highly concentrated in Retail, Main Road and Industrial sites, with those locations accounting for greater than 85% of the cigarette butts recorded in both survey periods. Cigarette butt bins were not observed in any of those sites.

- In November 22, the Takeaway food packaging category represented 13.30% of total items and 22.46% of the volume. In May 23 this alters to 15.08% of total items and 20.47% of total volume. By count the top items within this category were **Food and confectionary wrappers**, followed by **Lids, bottle tops, and can ring pulls (metal)** and **Lids - Beverage container lids /caps (plastic)**. By volume, **Paper and card food packaging** represented the highest contributor within this category in both survey periods.

- **Fragments** made up a significant portion of litter items counted, totalling 8,122 across all sizes and categories in November 22, and 6,113 in May 23. This equates to 42.33% of total litter items counted in November 22 and 40.21% in May 23. In November 22, Paper and Card were the most common material by count, accounting for 2,374 or 29.23% of the total fragments. This alters to Hard plastic in May 23, with 2,121 fragments counted, accounting for 34.69% of the total fragments observed. Whilst the overall reduction in total fragments between the two periods was reflected in all material types, Hard Plastic showed the smallest reduction, with only a 6.89% variance between periods.

- Data on **Beverage Containers** was collected, including segregation of those eligible for a 10c refund, under the Container Deposit Scheme ("CDS"). In November 22, there was a total of 184 beverage containers counted, which included 161 that were classified as eligible for a refund under the CDS and a further 23 that were not. In May 23, 140 Beverage Containers were recorded, including 126 that were classified as eligible for a refund under the CDS. A high proportion of the counted CDS containers were found at Main Road and Industrial sites, accounting for over 80% of the total CDS containers found in both periods.

## COMPARISON - COUNT OF ITEMS



Legend: ■ Volume at November 22  ■ Volume at May 23
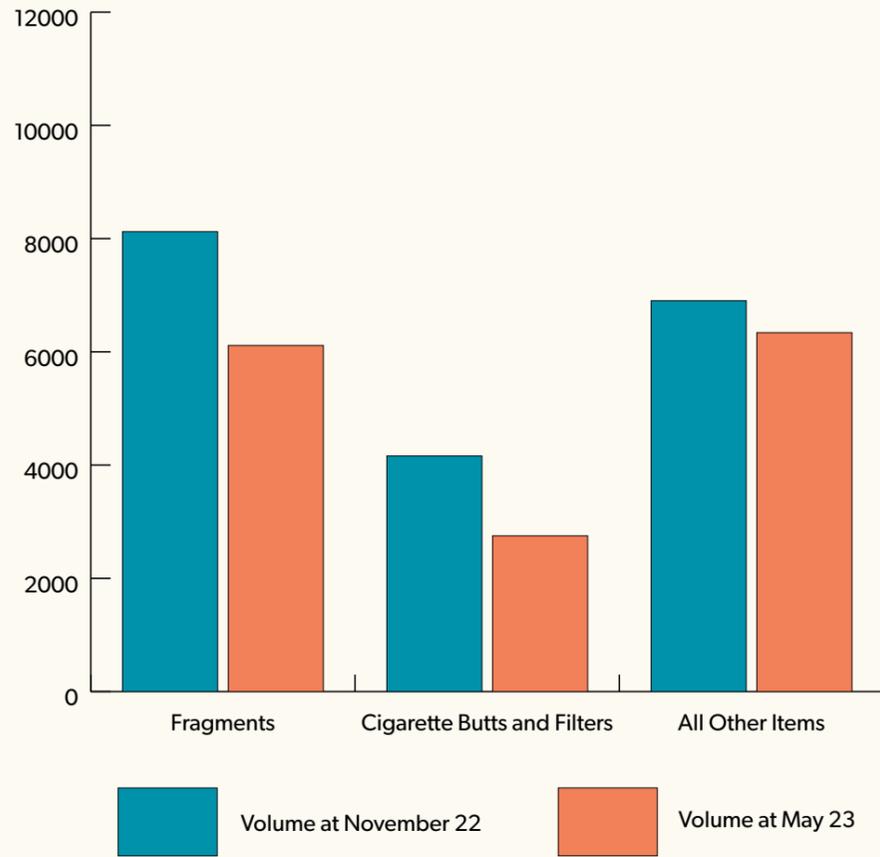
## COMPARISON - VOLUME OF ITEMS



Legend: ■ Volume at November 22  ■ Volume at May 23

Referring to the comparison graphs above, it is interesting to note the reduction in items counted (-3,983) can largely be attributed to a reduction in **Fragments** (-2,009) and **Cigarette Butt and filters** (-1,410).

All the remaining items only showed a reduction of 564 in total, confirming that the small but very prevalent items of **Fragments** and **Cigarette butts and filters** are the primary cause of the reduced count in May 23.

While the count of total litter items reduced between November 22 and May 23, total litter volume increased, driven by an increase in high volume items such as **Tyres** and **Clothing**

Detailed data and analysis is provided for site types, and key litter items and categories in *Section 3.0 Litter Data by Site Type* and *Section 4.0 Key Categories and Items*.

### TOP LITTER ITEM BY COUNT AND SITE TYPE NOVEMBER 22

| Site Type | Item | Total Items |
|---|---|---|
| Beach | Hard Plastic fragment – small | 32 |
| Retail | Cigarette Butts and Filters | 1,765 |
| Residential | Paper and Card fragment - small | 321 |
| Industrial | Cigarette Butts and Filters | 871 |
| Park | Paper and Card fragment - small | 202 |
| Main Road | Cigarette Butts and Filters | 1,074 |

### TOP LITTER ITEM BY COUNT AND SITE TYPE - MAY 23

| Site Type | Item | Total Items |
|---|---|---|
| Beach | Rope/string | 26 |
| Retail | Cigarette Butts and Filters | 1,039 |
| Residential | Cigarette Butts and Filters | 303 |
| Industrial | Cigarette Butts and Filters | 709 |
| Park | Paper and Card fragment - small | 97 |
| Main Road | Hard plastic fragment - small | 706 |

### TOP LITTER ITEM BY VOLUME AND SITE TYPE NOVEMBER 22

| Site Type | Item | Total Volume (l) |
|---|---|---|
| Beach | Paper/card food packaging | 2.5 |
| Retail | Paper/card food packaging | 31.5 |
| Residential | Tyres | 20 |
| Industrial | Paper/card food packaging | 23 |
| Park | Paper/card food packaging | 6.5 |
| Main Road | Paper/card food packaging | 47 |

### TOP LITTER ITEM BY VOLUME AND SITE TYPE - MAY 23

| Site Type | Item | Total Volume (l) |
|---|---|---|
| Beach | Rope/string | 5.2 |
| Retail | Tyres | 60 |
| Residential | Construction Materials | 10.44 |
| Industrial | Tyres | 140 |
| Park | Aluminium Foil Wrap | 5 |
| Main Road | Paper/card food packaging | 60 |

# 3.0  Litter Data by Site Type

The AusLM Field Guide defines litter counts at six distinct site types along with exclusion criteria that can render a site "failed'' (refer Appendix 1). Sites that were noted as failed were counted and included, however the reason for failure will be reviewed and may result in alternate sites being selected in future litter audits.

The largest area surveyed was residential sites, with over 33,000 square meters covered in both survey periods. Residential sites consist of variable widths, defined as road's edge to property boundary, meaning transect widths of up to 10m were surveyed, with an average width of 5.7m.

Beach sites were the smallest area surveyed, with between 6,000 and 7,000 square meters surveyed. This lower area, is in part due to three local government areas not having a suitable beach site to audit. The length of some beach transects was also in some cases as low as 5m, with the average beach transect length totalling 32m.

The varying square metres surveyed across the different site types is adjusted for in the normalised (/1,000m2) figures throughout this report, and further outlined below.

| LITTER DATA BY SITE TYPE - NOVEMBER 22 | | | | | |
|---|---|---|---|---|---|
| Site Type | Total Area Surveyed (m$^2$) | Number of Items | Items /1000m$^2$ | Total Volume (l) | Volume (l)/1000m$^2$ |
| Beach | 6,360.66 | 167 | 26.26 | 13.68 | 2.15 |
| Retail | 13,156.00 | 3,532 | 268.47 | 174.99 | 13.30 |
| Residential | 33,294.80 | 2,240 | 67.28 | 156.50 | 4.70 |
| Industrial | 21,826.80 | 5,413 | 248.00 | 298.92 | 13.70 |
| Park | 10,523.40 | 1,323 | 125.72 | 48.76 | 4.63 |
| Main Road | 19,682.00 | 6,511 | 330.81 | 368.74 | 18.73 |
| Total | 104,843.66 | 19,186 | 183.00 | 1,061.58 | 10.13 |

| LITTER DATA BY SITE TYPE - MAY 23 | | | | | |
|---|---|---|---|---|---|
| Site Type | Total Area Surveyed (m$^2$) | Number of Items | Items /1000m$^2$ | Total Volume (l) | Volume (l)/1000m$^2$ |
| Beach | 7,299.60 | 193 | 26.44 | 17.35 | 2.38 |
| Retail | 13,106.00 | 2,537 | 193.58 | 196.91 | 15.02 |
| Residential | 35,030.00 | 2,092 | 59.72 | 121.20 | 3.46 |
| Industrial | 20,641.30 | 5,234 | 253.57 | 465.93 | 22.57 |
| Park | 10,894.50 | 652 | 59.85 | 32.29 | 2.96 |
| Main Road | 17,937.00 | 4,495 | 250.60 | 363.22 | 20.25 |
| Total | 104,908.40 | 15,203 | 144.92 | 1,196.91 | 11.41 |

## AREA SURVEYED TO LITTER ITEMS AND VOLUME - NOVEMBER 22



Total Area Surveyed (m²)    Total Litter Items    Total Volume (l)
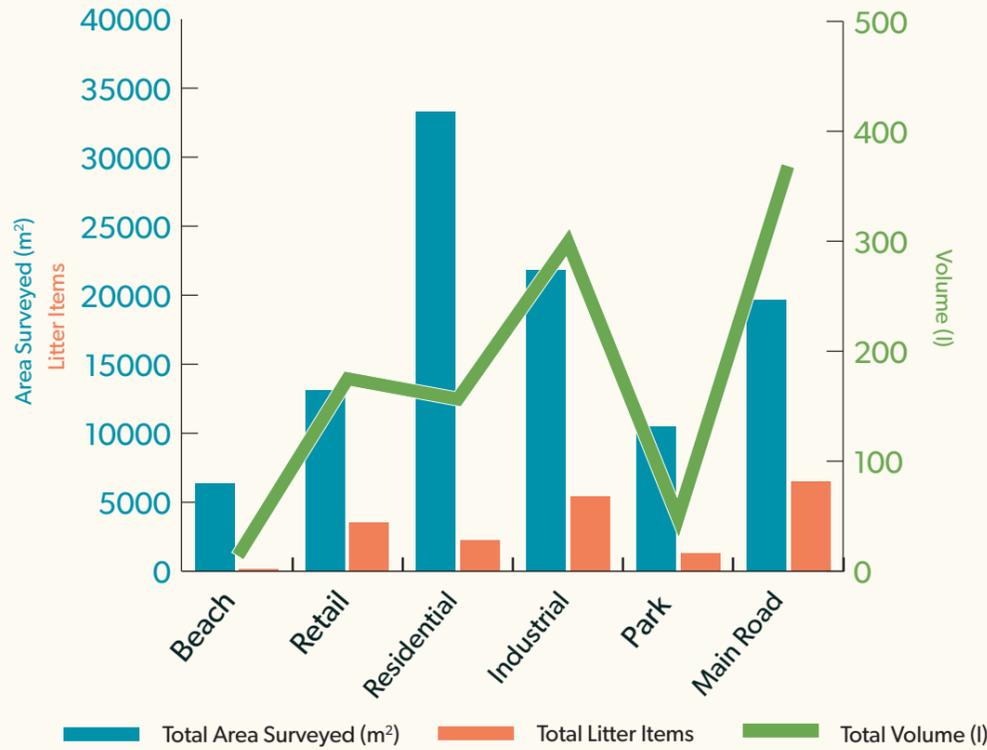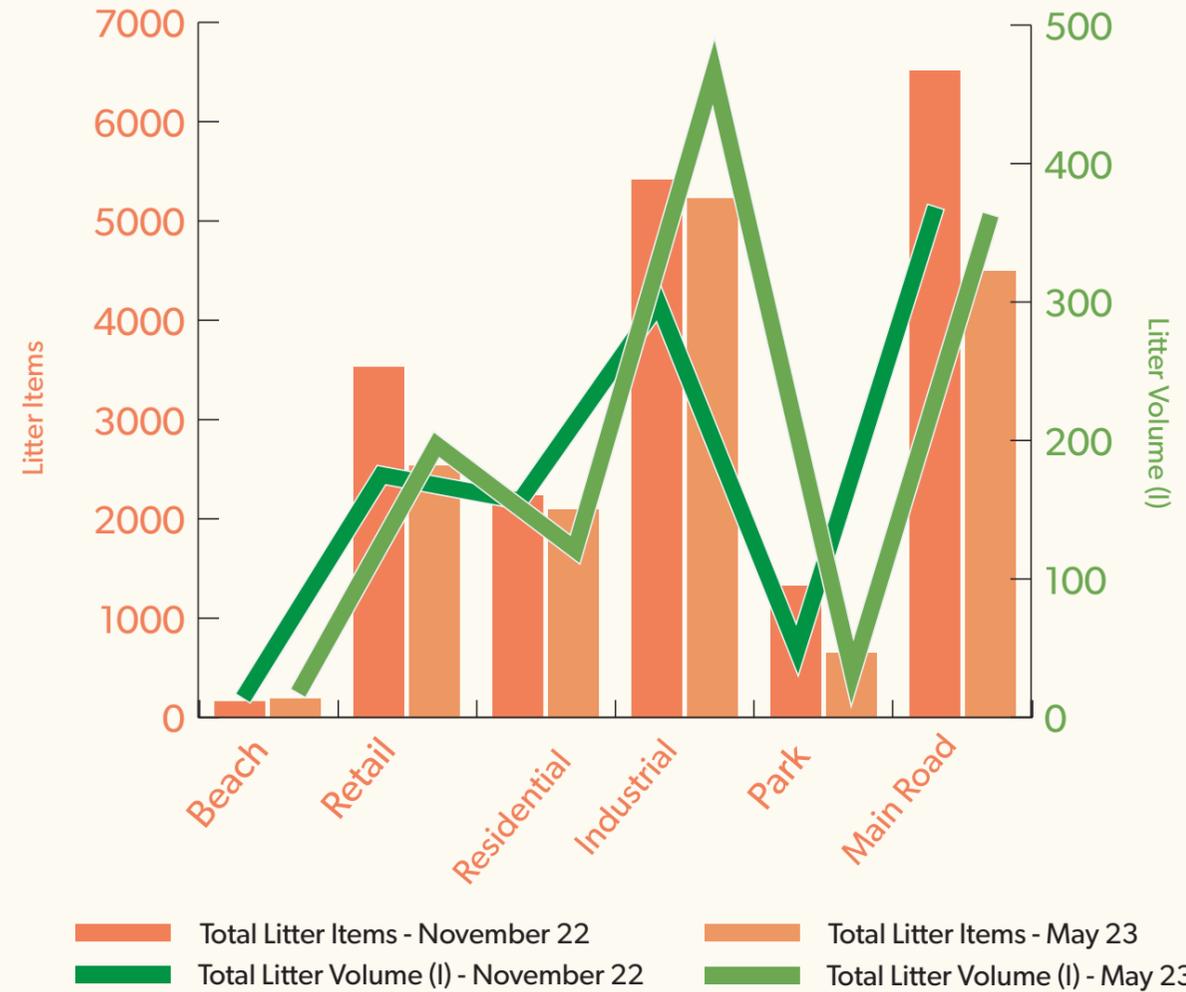
## AREA SURVEYED TO LITTER ITEMS AND VOLUME - MAY 23



Total Area Surveyed (m²)    Total Litter Items    Total Volume (l)

## LITTER COUNT AND VOLUME COMPARISON



Total Litter Items - November 22          Total Litter Items - May 23
Total Litter Volume (l) - November 22     Total Litter Volume (l) - May 23
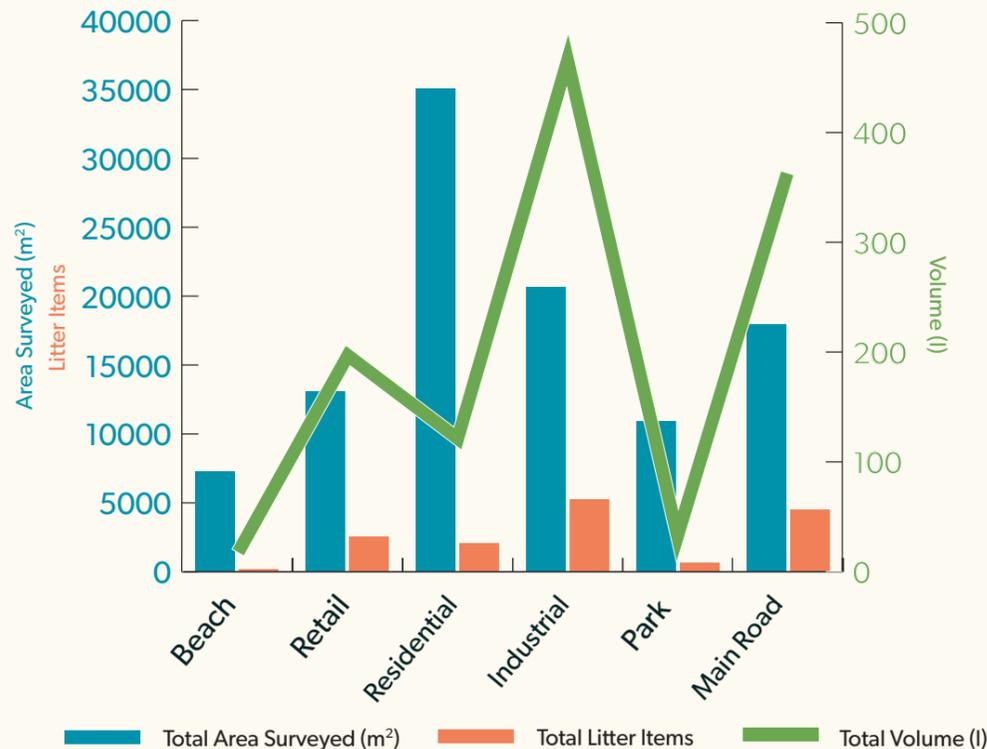
The AREA SURVEYED TO LITTER ITEMS AND VOLUME graphs (left) demonstrate the increased volume recorded in May 23 can largely be attributed to Industrial sites; despite having a comparable area surveyed the calculated volume of litter at that site type has increased significantly.

The LITTER COUNT AND VOLUME COMPARISON graph (above) highlights that all site types aside from Beach showed a reduction of Total Litter Items (count) from November 22 to May 23. Again, the increased calculated volume recorded for May 23 for Industrial sites is highlighted.

All other sites have maintained a similar calculated volume between periods, despite the reduction in count, indicating a trend towards higher volume items for the May 23 period.

# Normalised Litter Data by Site Type

## TOTAL LITTER ITEMS/1000m² BY SITE TYPE



Legend:
- Total Litter Items (raw)
- Litter Items /1000m² (normalised)
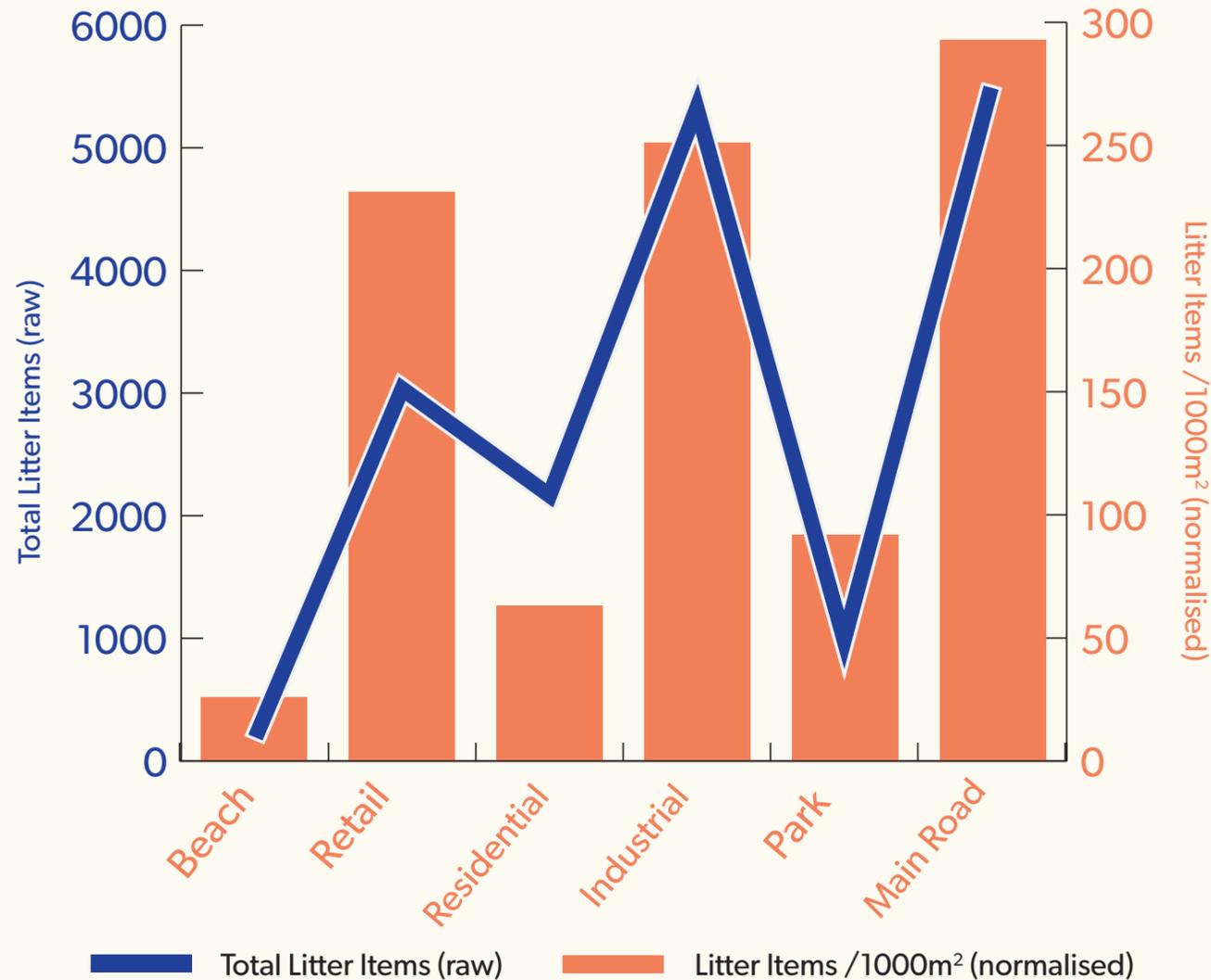
## TOTAL LITTER VOLUME/1000m² BY SITE TYPE



Legend:
- Total Litter Volume (raw)
- Litter Volume/1000m² (normalised)
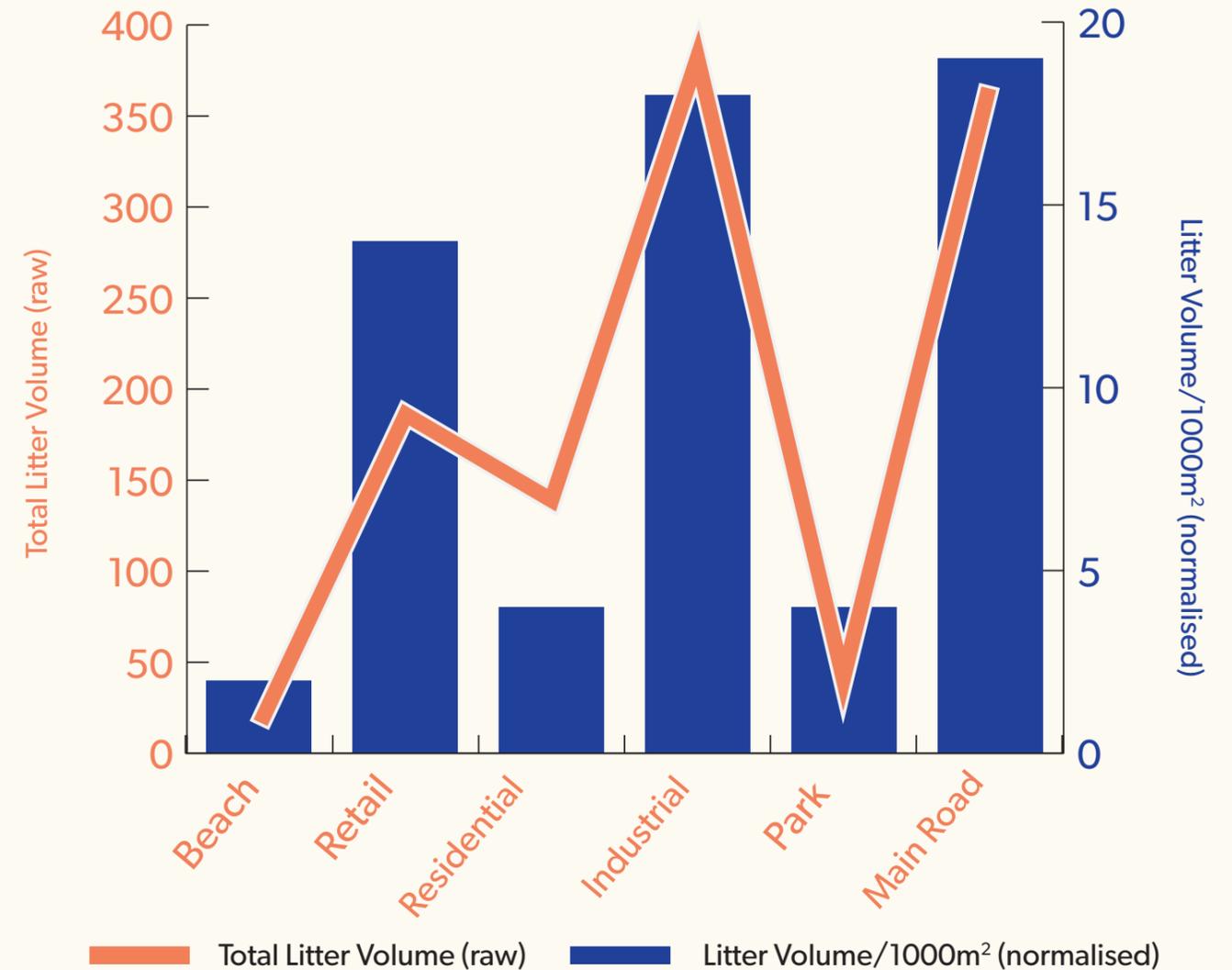
Raw litter information (# of items and calculated volume) has been normalised, to adapt to the fluctuating absolute square meters studied across each site type, and to allow more exact examinations of litter density. Normalising the findings included increasing the complete litter items and volume over a standard 1,000 square metre area, to eliminate the effect of the differing square meters studied by site type. The formulas to normalise the data are explained in *Section 1.0 Project Summary*.

The normalised figures are tightly lined up with the raw data lines for both absolute litter items and total litter volume, with the largest deviations showing in Retail and Residential sites.

Higher litter items and volume per 1,000m2 than the raw total litter items/volume trendline has been identified in Retail. This is reflecting the relatively low area surveyed (just over 13,000 square metres each survey) for this site type and infers the litter density at Retail sites is higher than the raw numbers initially indicate.

Conversely, the discrepancy in Residential sites is a product of the high area covered, with the normalised figures showing that the litter density is well below average at this site type.

## RAW LITTER ITEMS BY SITE TYPE
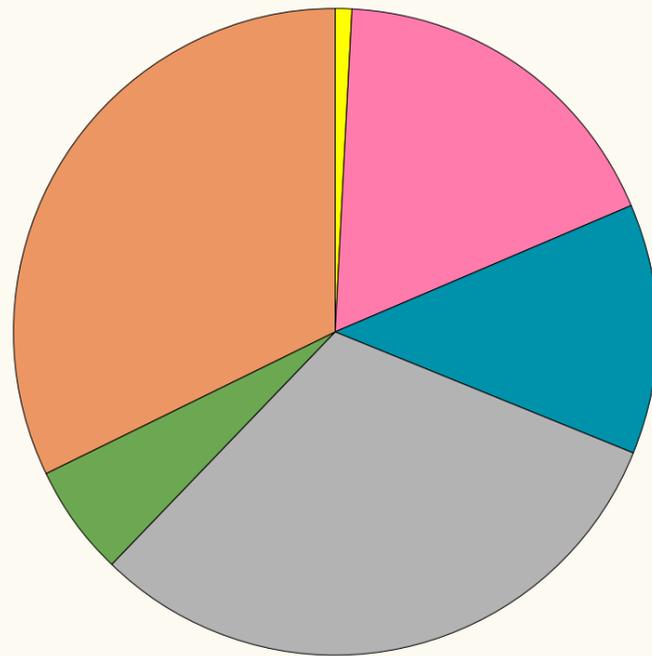
1% Beach
18% Retail
12% Residential
31% Industrial
6% Park
32% Main Road

## RAW LITTER VOLUME BY SITE TYPE
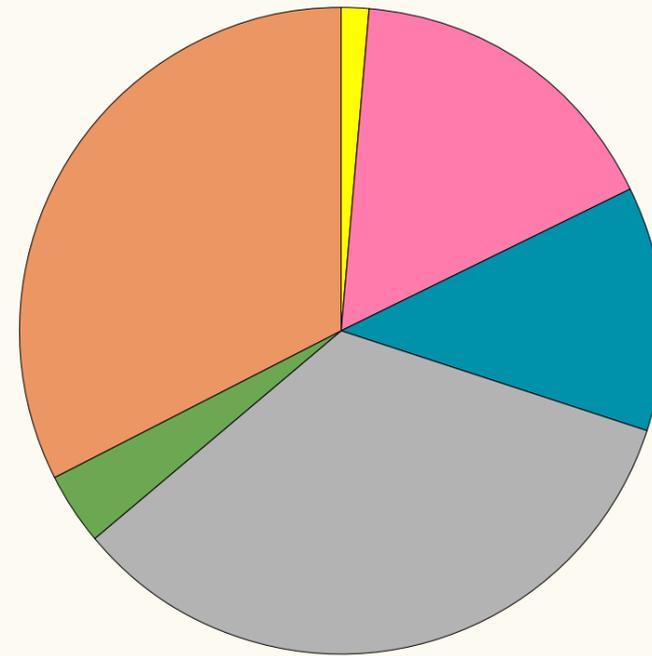
1% Beach
17% Retail
12% Residential
34% Industrial
4% Park
32% Main Road

## NORMALISED LITTER ITEMS BY SITE TYPE
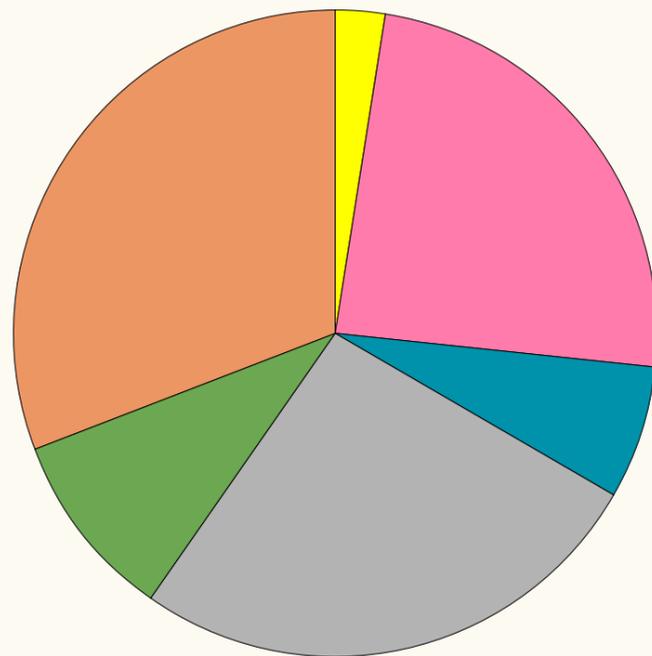
3% Beach
24% Retail
7% Residential
26% Industrial
10% Park
30% Main Road

## NORMALISED LITTER VOLUME BY SITE TYPE
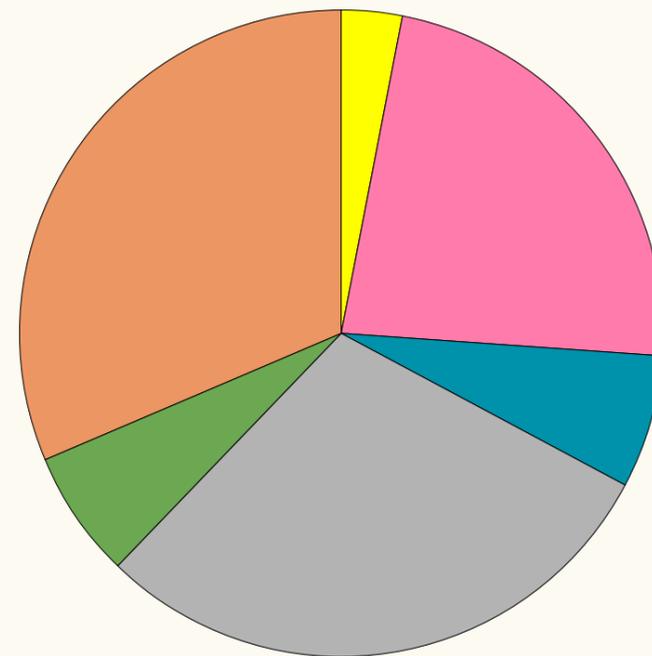
4% Beach
23% Retail
7% Residential
29% Industrial
6% Park
31% Main Road

# Site Type Summary – Beach

**Common Site Features/Observations**

General waste bins were regularly found at Beach sites, although not frequently inside the transects themselves (i.e. they were often observed on grassed, leisure zones adjoining to the shoreline, or at beach site car parks).

It was noted on several occasions that the litter counted at beach sites had a tendency to gather at the dune end of the transect.

| | RAW | NORMALISED |
|---|---|---|
| Site type count as a % of total items | 1.05% | 2.76% |
| Site type volume as a % of total volume | 1.37% | 3.68% |



| SITE SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 167 | 193 |
| Total Volume of Items- (l) | 13.68 | 17.35 |
| Items /1000m$^2$ | 26.26 | 26.44 |
| Volume (l)/1000m$^2$ | 2.15 | 2.38 |
| Highest Site Litter Count – Number (#) | 36 | 68 |
| Highest Site Litter Count – Volume (l) | 2.98 | 7.69 |
| Lowest Site Litter Count – Number (#) | 11 | 5 |
| Lowest Site Litter Count – Volume (l) | 0.59 | 0.14 |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Hard plastic fragment – small | 32 | Rope/string | 26 |
| Soft plastic fragment – small | 12 | Soft plastic fragment– small | 22 |
| Rope/String | 11 | Cigarette butts and filters | 17 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Paper/card food packaging | 2.5 | Rope/string | 5.2 |
| Rope/String | 2.2 | Paper/card food packaging | 4.5 |
| Fruit/vegetable/food | 1.6 | Non-Food package | 2 |

# Site Type Summary – Retail

**Common Site Features/Observations**

In both survey periods, **Cigarette butts and filters** accounted for the highest number of litter items found at Retail sites.

Although recycling bins were not frequently observed at Retail sites, litter bins for general waste items were commonly observed.

Several transects included tables, benches and garden beds. It was noted that litter had a tendency to accumulate in garden beds and around seating areas.

| | RAW | NORMALISED |
|---|---|---|
| Site type count as a % of total items | 17.65% | 24.16% |
| Site type volume as a % of total volume | 16.47 % | 22.93% |



| SITE SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 3,532 | 2,537 |
| Total Volume of Items- (l) | 174.99 | 196.91 |
| Items /1000m² | 268.47 | 193.58 |
| Volume (l)/1000m² | 13.30 | 15.02 |
| Highest Site Litter Count – Number (#) | 718 | 487 |
| Highest Site Litter Count – Volume (l) | 53.30 | 63.33 |
| Lowest Site Litter Count – Number (#) | 36 | 51 |
| Lowest Site Litter Count – Volume (l) | 2.75 | 1.1 |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Cigarette butts and filters | 1,765 | Cigarette butts and filters | 1,039 |
| Paper and card fragment – small | 228 | Paper and card fragment – small | 146 |
| Food/confect. Wrappers | 208 | Shopper dockets, tickets/ receipts | 136 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Paper/card food packaging | 31.5 | Tyres | 60 |
| Tyres | 20 | Paper/card food packaging | 33 |
| Food/confect. Wrappers | 10.4 | Construction materials | 7.56 |

# Site Type Summary – Residential

## Common Site Features/Observations

Residential sites accounted for the largest area surveyed, however the total item count did not directly reflect this, with Residential sites showing the fourth highest litter count, behind Main Roads, Industrial and Retail.

Public litter bins were not observed at residential sites, however evidence of recent cleaning (i.e. blower vac in use/tidying) was observed on two occasions.

As demonstrated in the **Litter Levels** graphs, litter count at the majority of Residential sites was within a fairly tight range, aside from one particular location which accounted for between 36% and 47% of the sites total litter each period.

| | RAW | NORMALISED |
|---|---|---|
| Site type count as a % of total items | 12.60% | 6.63% |
| Site type volume as a % of total volume | 12.30 % | 6.58% |

### LITTER LEVELS ACROSS RESIDENTIAL SITES - NOVEMBER 22



### LITTER LEVELS ACROSS RESIDENTIAL SITES - MAY 23
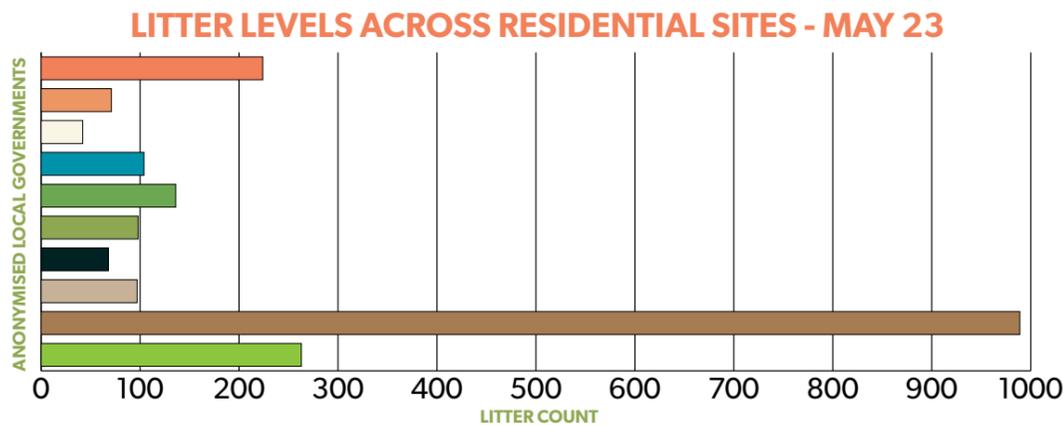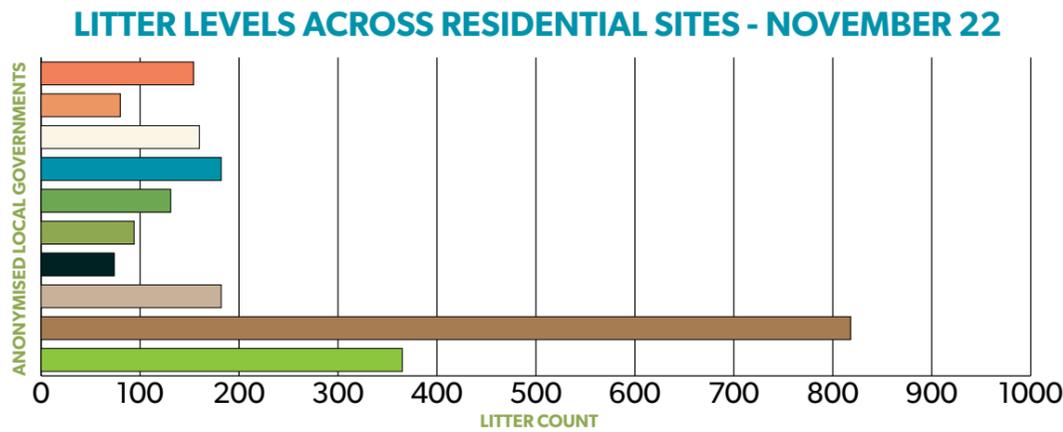


| SITE SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 2,240 | 2,092 |
| Total Volume of Items- (l) | 156.50 | 121.20 |
| Items /1000m$^2$ | 67.28 | 59.72 |
| Volume (l)/1000m$^2$ | 4.70 | 3.46 |
| Highest Site Litter Count – Number (#) | 818 | 989 |
| Highest Site Litter Count – Volume (l) | 57.47 | 41.86 |
| Lowest Site Litter Count – Number (#) | 74 | 42 |
| Lowest Site Litter Count – Volume (l) | 2.36 | 2.09 |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Paper and card fragment – small | 321 | Cigarette butts and filters | 303 |
| Hard plastic fragment – small | 246 | Hard plastic fragment – small | 236 |
| Cigarette butts and filters | 241 | Paper and card – small | 227 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Tyres | 20 | Construction materials | 10.44 |
| Construction materials | 18 | Clothing | 10 |
| Paper/card food packaging | 15 | Paper/card food packaging | 8 |

# Site Type Summary – Industrial

## Common Site Features/Observations

In the November 22 survey, Industrial contained the second highest litter load, after Main Roads. In May 23, Industrial moved into top place, more due a reduction in the recorded litter at Main Roads, rather than an escalation of the litter load at Industrial sites.

The calculated volume of litter at Industrial sites has shown a significant uplift between November 22 and May 23. Seven whole **Tyres**, with a calculated volume of 20L per item were recorded at this site type in May 23. There were also 35 items of **Clothing** recorded, with a calculated volume of 1 litre per item, that further contributed to the increase.

Litter bins were observed at four of ten Industrial sites, in both survey periods. Many sites appeared neglected and much of the surveyed area was used for parking vehicles.

### LITTER LEVELS ACROSS INDUSTRIAL SITES - NOVEMBER 22
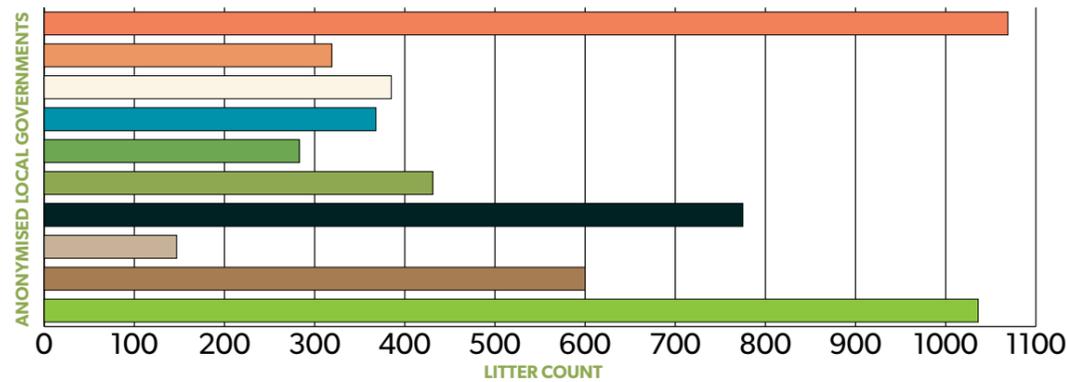


### LITTER LEVELS ACROSS INDUSTRIAL SITES - MAY 23
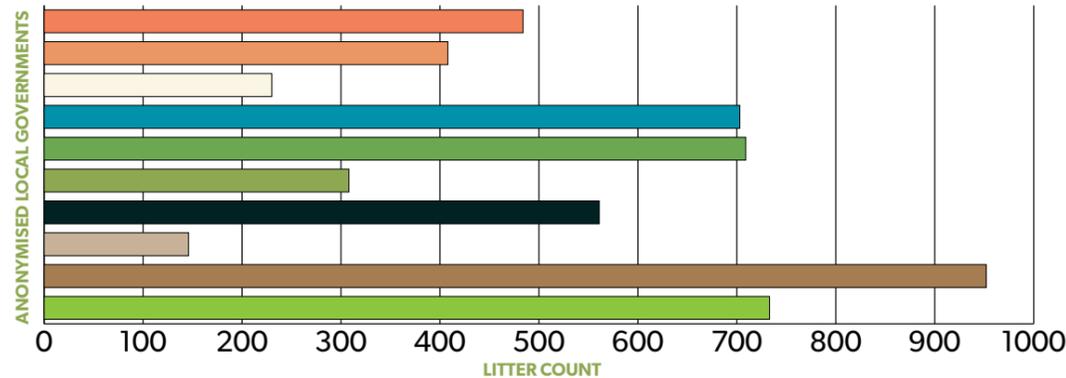


| SITE SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 5,413 | 5,234 |
| Total Volume of Items- (l) | 302.64 | 465.93 |
| Items /1000m$^2$ | 248.00 | 253.57 |
| Volume (l)/1000m$^2$ | 13.87 | 22.57 |
| Highest Site Litter Count – Number (#) | 1,069 | 952 |
| Highest Site Litter Count – Volume (l) | 57.78 | 162.81 |
| Lowest Site Litter Count – Number (#) | 147 | 146 |
| Lowest Site Litter Count – Volume (l) | 8.75 | 10.13 |

| | **RAW** | **NORMALISED** |
|---|---|---|
| Site type count as a % of total items | 30.96% | 26.22% |
| Site type volume as a % of total volume | 33.87% | 29.17% |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Cigarette butts and filters | 871 | Cigarette butts and filters | 709 |
| Hard plastic fragment – small | 588 | Hard plastic fragment – small | 502 |
| Paper and card fragment – small | 452 | Paper and card fragment – small | 362 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Paper/card food packaging | 23 | Tyres | 140 |
| Clothing | 18 | Clothing | 35 |
| Insulation & Packaging | 16 | Paper/card food packaging | 24 |

# Site Type Summary – Park

## Common Site Features/Observations

Overall, Parks contained the second lowest litter levels in both survey periods.

The litter count has reduced significantly between November 22 and May 23 which may be explained by the seasonal nature of park use – higher usage and hence litter could be anticipated in Spring (November 22 count) when compared to late Autumn (May 23 count).

Litter bins were observed at nine of the ten park sites surveyed; two also had comingled recycling bins available and one location was recorded as containing cigarette butt bins.

| | RAW | NORMALISED |
|---|---|---|
| Site type count as a % of total items | 5.74% | 9.64% |
| Site type volume as a % of total volume | 3.59% | 6.13% |



| SITE SNAPSHOT | | |
|---|---|---|
| | NOV 22 | MAY 23 |
| Total Number of Items - (#) | 1,323 | 652 |
| Total Volume of Items- (l) | 48.76 | 32.29 |
| Items /1000m$^2$ | 125.72 | 59.85 |
| Volume (l)/1000m$^2$ | 4.63 | 2.96 |
| Highest Site Litter Count – Number (#) | 362 | 186 |
| Highest Site Litter Count – Volume (l) | 14.85 | 10.04 |
| Lowest Site Litter Count – Number (#) | 15 | 20 |
| Lowest Site Litter Count – Volume (l) | 0.38 | 0.65 |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| NOV 22 | | MAY 23 | |
| Paper and card fragment – small | 202 | Paper and card fragment – small | 97 |
| Cigarette butts and filters | 202 | Cigarette butts and filters | 90 |
| Soft plastic fragment – small | 156 | Food/confect. Wrappers | 58 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| NOV 22 | | MAY 23 | |
| Paper/card food packaging | 6.5 | Aluminium foil wrap | 5 |
| Other plastic item | 5.6 | Food/confect. Wrappers | 2.9 |
| Food/confect. Wrappers | 5.3 | Rope/string | 2.2 |

# Site Type Summary – Main Road

## Common Site Features/Observations

Across all measures (count, count/1000m$^2$, volume, and volume/1000m$^2$) Main Roads contained the highest litter levels in November 22, and the second highest in May 23.

As demonstrated in the **Litter Levels** graphs, the count at individual sites varies widely in both periods, suggesting that the high litter load is not a consistent issue across all local government areas.

Recent mowing (and hence a high level of fragments) was cited as a reason for one particular site's elevated litter level in November 22, that did not reoccur in May 23 (in part explaining the reduced overall count).

| | RAW | NORMALISED |
|---|---|---|
| Site type count as a % of total items | 32.00% | 30.59% |
| Site type volume as a % of total volume | 32.41% | 31.51% |

### LITTER LEVELS ACROSS MAIN ROADS SITES - NOVEMBER 22



### LITTER LEVELS ACROSS MAIN ROADS SITES - MAY 23
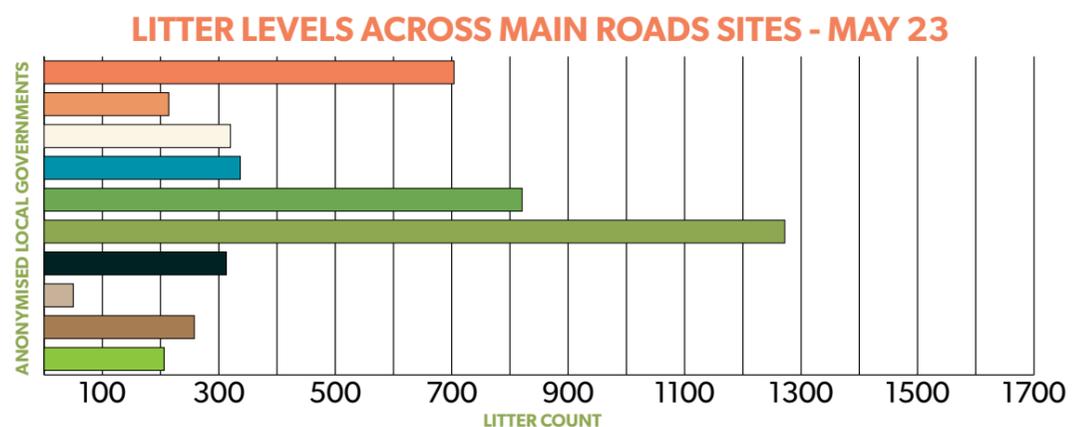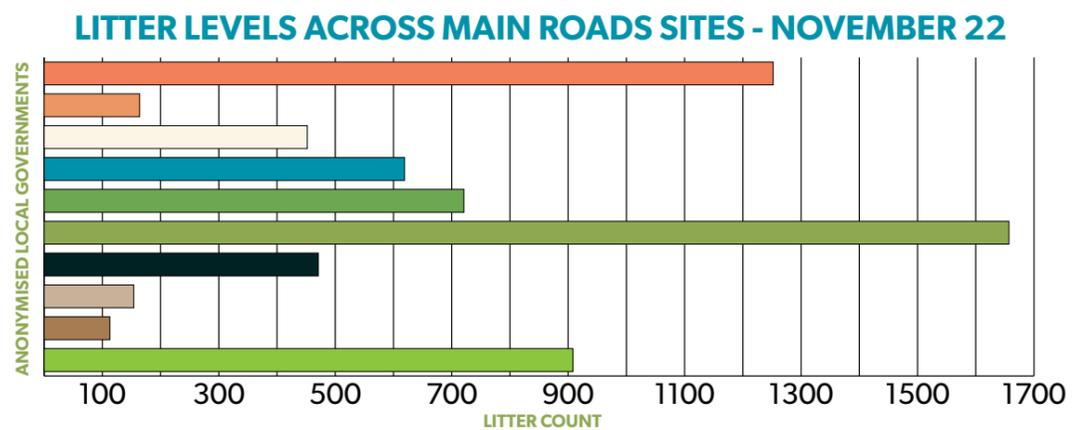


| SITE SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 6,511 | 4,495 |
| Total Volume of Items- (l) | 368.74 | 363.22 |
| Items /1000m$^2$ | 330.81 | 250.6 |
| Volume (l)/1000m$^2$ | 18.73 | 20.25 |
| Highest Site Litter Count – Number (#) | 1,657 | 1,272 |
| Highest Site Litter Count – Volume (l) | 147.40 | 131.75 |
| Lowest Site Litter Count – Number (#) | 113 | 50 |
| Lowest Site Litter Count – Volume (l) | 4.95 | 4.56 |

| TOP 3 ITEMS BY COUNT (#) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Cigarette butts and filters | 1,074 | Hard plastic fragment – small | 706 |
| Paper and card fragment – small | 889 | Cigarette butts and filters | 593 |
| Hard plastic fragment – small | 734 | Food/confect. Wrappers | 325 |

| TOP 3 ITEMS BY VOLUME (l) | | | |
|---|---|---|---|
| **NOV 22** | | **MAY 23** | |
| Paper/card food packaging | 47 | Paper/card food packaging | 60 |
| Food/confect Wrappers | 25.75 | Tyres | 40 |
| Tyres | 20 | Food/confect. Wrappers | 16.25 |

# 4.0 Key Categories and Items

## Single Use Plastics

On the 1st of January 2022, the phased Single Used Plastic (SUP) ban by the WA Government came into effect. This 'Plan for Plastic' includes a ban on items such as single use plastic cutlery, straws, plastic shopping bags, plastic cups and lids and polystyrene food containers. The items included in this category include those likely to be impacted by current or proposed future stages of the 'Plan for Plastic'. Appendix 4 is a count sheet that outlines all items captured in this category.

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 702 | 543 |
| Total Volume of Items- (l) | 106.68 | 82.61 |
| Highest Site Litter Count – Number (#) | 150 | 86 |
| Highest Site Litter Count – Volume (l) | 22.84 | 12.02 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

| | |
|---|---|
| Category count as a % of total items | 3.62% |
| Category volume as a % of total volume | 8.38 % |

### CONCENTRATION OF SINGLE USE PLASTICS - NOVEMBER 22



2% Beach
13% Retail
10% Residential
27% Industrial
4% Park
44% Main Road

### CONCENTRATION OF SINGLE USE PLASTICS - MAY 23



2% Beach
15% Retail
10% Residential
29% Industrial
5% Park
39% Main Road
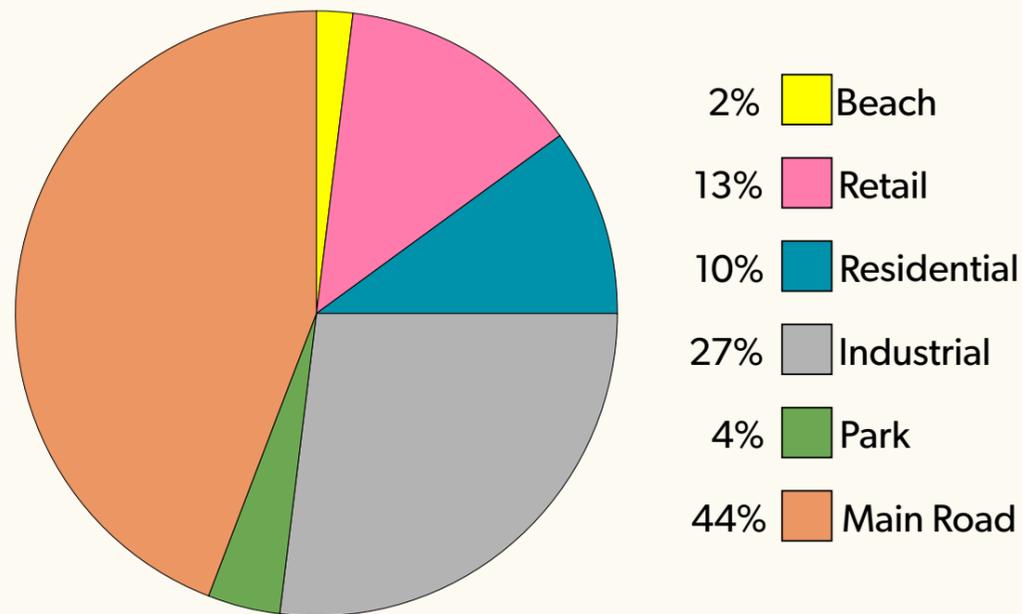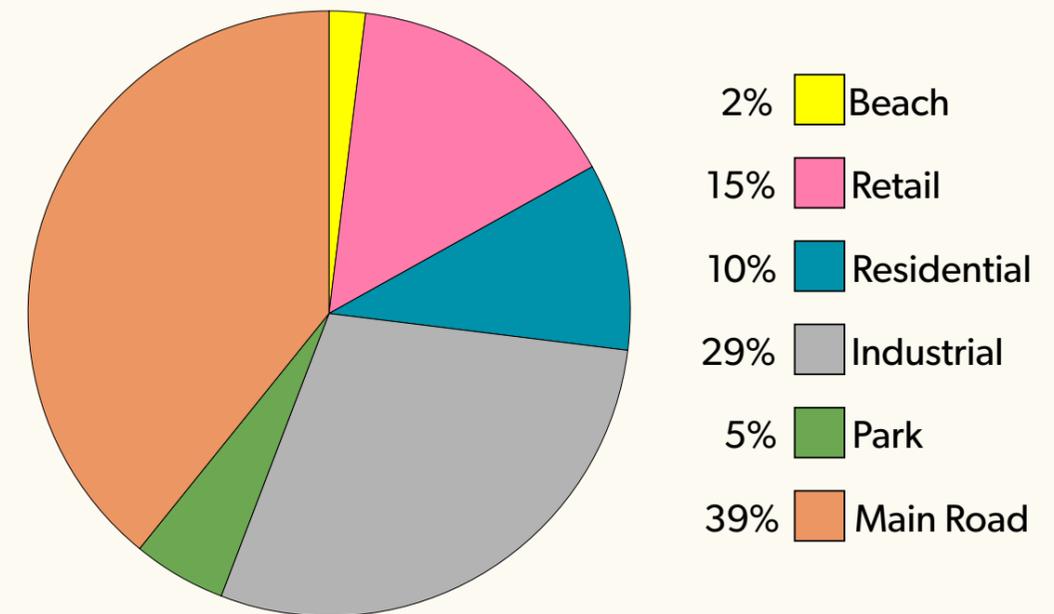
| CATEGORY DETAIL - SINGLE USE PLASTIC NOVEMBER 22 | | |
|---|---|---|
| **Item** | **Number of Items (#)** | **Total Volume (l)** |
| Bag - Other | 136 | 27.20 |
| Lids - Plastic cup lid | 77 | 1.54 |
| Straws | 77 | 0.39 |
| Cup - Coffee cup | 75 | 15.00 |
| Lids - Other | 73 | 1.46 |
| Lids -Coffee cup lid | 59 | 1.18 |
| Other Food Package | 59 | 29.50 |
| Lollipop Sticks | 52 | 0.05 |
| Cup – Single use | 29 | 5.80 |
| Takeaway food container | 26 | 13.00 |
| Cutlery/chopsticks | 16 | 0.16 |
| Bag - Heavy Supermarket | 7 | 7.00 |
| Bag - Lightweight shop | 6 | 1.20 |
| Cotton buds/tips | 3 | 0.00 |
| Bag - Heavy Boutique | 2 | 2.00 |
| Bag - Mesh Bags | 2 | 0.20 |
| Food pack./clam shells | 2 | 1.00 |
| Stirrers | 1 | 0.001 |
| Plate/bowl – single use | 0 | 0.00 |
| **Total** | **702** | **106.68** |

| CATEGORY DETAIL - SINGLE USE PLASTIC MAY 23 | | |
|---|---|---|
| **Item** | **Number of Items (#)** | **Total Volume (l)** |
| Cup - Coffee cup | 80 | 16 |
| Lids - Plastic cup lid | 67 | 1.34 |
| Lids - Other | 60 | 1.2 |
| Bag - Other | 56 | 11.2 |
| Lollipop Sticks | 48 | 0.05 |
| Takeaway food container | 47 | 23.5 |
| Lids -Coffee cup lid | 44 | 0.88 |
| Straws | 41 | 0.21 |
| Other Food Package | 30 | 15 |
| Cup – Single use | 20 | 4 |
| Cotton buds/tips | 16 | 0.02 |
| Cutlery/chopsticks | 12 | 0.12 |
| Bag -Lightweight shop | 8 | 1.6 |
| Bag - Heavy Boutique | 5 | 5 |
| Bag - Mesh Bags | 3 | 0.3 |
| Stirrers | 2 | 0.002 |
| Food pack./clam shells | 2 | 1 |
| Bag - Heavy Supermarket | 1 | 1 |
| Plate/bowl – single use | 1 | 0.2 |
| **Total** | **543** | **82.61** |

# Beverage Containers - CDS

The Containers for Change program is a container deposit scheme ("CDS") that commenced in Western Australia in October 2020. It allows consumers to take eligible beverage containers to a collection point and get a refund of 10 cents per item. Eligible containers are labelled with a "10 cent refundable" sign.

Data presented in the first part of this section refers to CDS eligible containers only. Detail on all beverage containers (including CDS eligible and Non-CDS is presented at the end of this section.

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 161 | 126 |
| Total Volume of Items- (l) | 72.53 | 55.13 |
| Highest Site Litter Count – Number (#) | 27 | 22 |
| Highest Site Litter Count – Volume (l) | 11.93 | 10.73 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

| | |
|---|---|
| Category count as a % of total items | 0.83% |
| Category volume as a % of total volume | 5.65% |

### DISTRIBUTION OF CDS BEVERAGE CONTAINERS - NOVEMBER 22
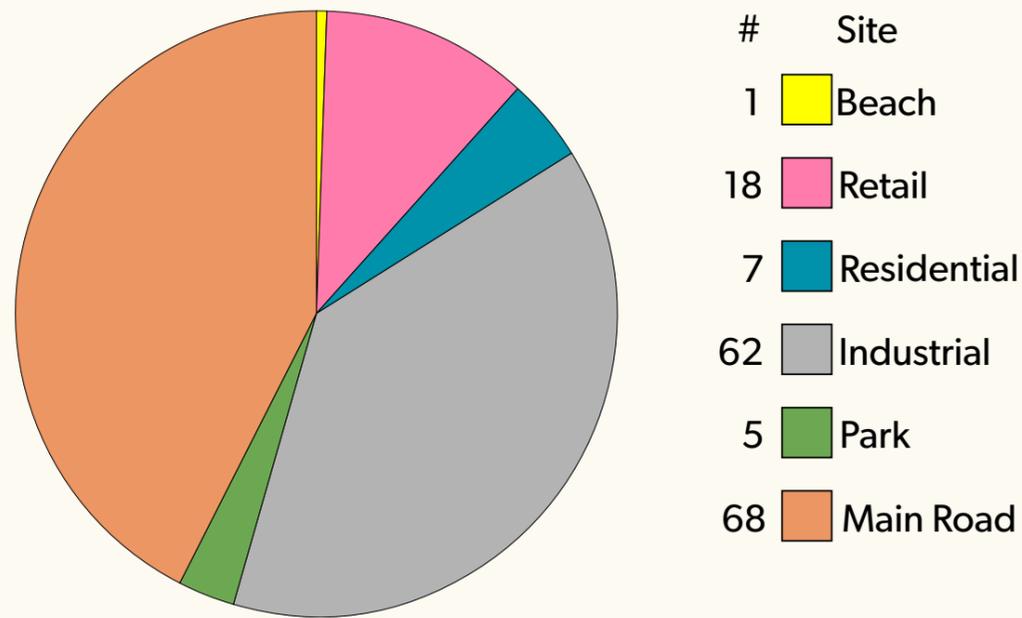


| # | Site |
|---|---|
| 1 | Beach |
| 18 | Retail |
| 7 | Residential |
| 62 | Industrial |
| 5 | Park |
| 68 | Main Road |

### DISTRIBUTION OF CDS BEVERAGE CONTAINERS - MAY 23



| # | Site |
|---|---|
| 0 | Beach |
| 6 | Retail |
| 16 | Residential |
| 53 | Industrial |
| 3 | Park |
| 48 | Main Road |
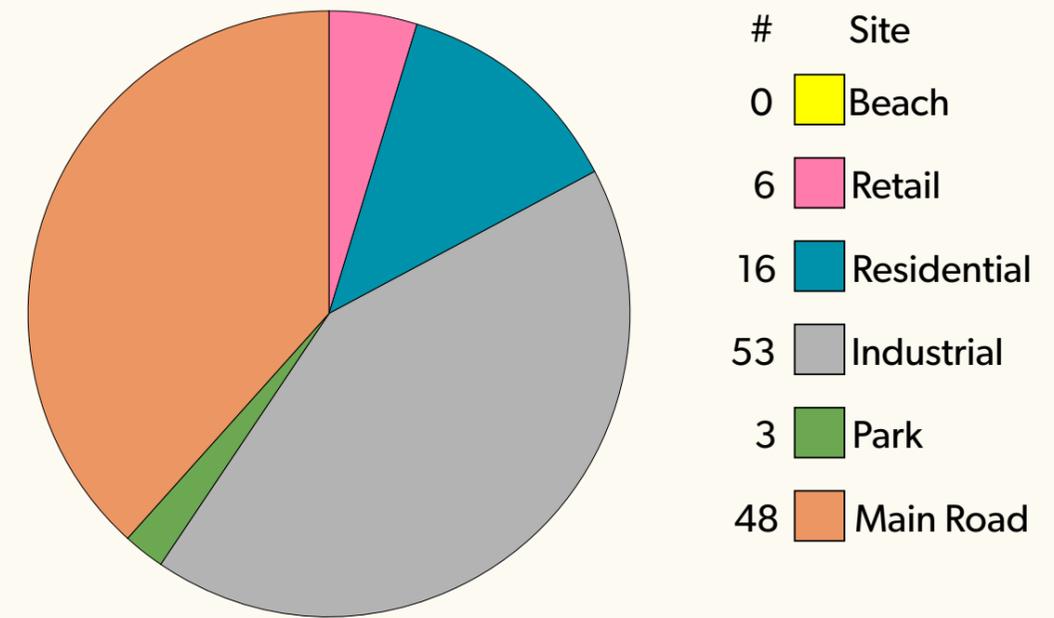
## CATEGORY DETAIL – CDS BEVERAGE CONTAINERS NOVEMBER 22

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Glass Beer 150-499mL | 27 | 10.13 |
| Metal Beer 150-499mL | 27 | 10.13 |
| Metal Soft Dr/FW/FJD/SpD/EnD 150-499mL | 24 | 9 |
| Plastic Soft Dr/FW/FJD/SpD/EnD 500-999mL | 14 | 8.4 |
| Metal Premixed spirit drinks 150-499mL | 8 | 3 |
| Plastic Soft Dr/FW/FJD/SpD/EnD 150-499mL | 8 | 3 |
| Plastic Flav. Milk 150-499mL | 6 | 2.25 |
| Plastic Water 500-999mL | 4 | 2.4 |
| Glass Soft Dr/FW/FJD/SpD/EnD 150-499mL | 4 | 1.5 |
| Glass Premixed spirit drinks 150-499mL | 4 | 1.5 |
| Plastic Fruit/vegetable juice 150-499mL | 4 | 1.5 |
| Plastic Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | 3 | 4.5 |
| Glass Beer 500-999mL | 3 | 1.8 |
| Metal Soft Dr/FW/FJD/SpD/EnD 500-999mL | 3 | 1.8 |
| Metal Beer 500-999mL | 3 | 1.8 |
| Plastic Flav. Milk 500-999mL | 3 | 1.8 |
| Paper Flav. milk (Cartons) 150-499mL | 3 | 1.13 |
| Plastic Water 150-499mL | 3 | 1.13 |
| Metal Cider/fruit based 150-499mL | 2 | 0.75 |
| Plastic Water 1000mL-3000mL | 1 | 1.5 |
| Glass Water 500-999mL | 1 | 0.6 |
| Glass Wine-based/wine cooler 500-999mL | 1 | 0.6 |
| Metal Cider/fruit based 500-999mL | 1 | 0.6 |
| Paper Flav. milk (Cartons) 500-999mL | 1 | 0.6 |
| Glass Cider 150-499mL | 1 | 0.38 |
| Paper FW/FJD/SpD/EnD 150-499mL | 1 | 0.38 |
| Paper Fruit Juice 150-499mL | 1 | 0.38 |
| **Total** | **161** | **72.53** |

## CATEGORY DETAIL – CDS BEVERAGE CONTAINERS MAY 23

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Metal Soft Dr/FW/FJD/SpD/EnD 150-499mL | 39 | 14.63 |
| Glass Beer 150-499mL | 19 | 7.13 |
| Metal Premixed spirit drinks 150-499mL | 11 | 4.13 |
| Metal Beer 150-499mL | 8 | 3 |
| Plastic Flav. Milk 150-499mL | 7 | 2.63 |
| Plastic Flav. Milk 500-999mL | 6 | 3.6 |
| Plastic Water 500-999mL | 5 | 3 |
| Plastic Soft Dr/FW/FJD/SpD/EnD 500-999mL | 5 | 3 |
| Glass Soft Dr/FW/FJD/SpD/EnD 150-499mL | 5 | 1.88 |
| Paper and Card Flav. milk (Cartons) 150-499mL | 5 | 1.88 |
| Plastic Water 1000mL-3000mL | 3 | 4.5 |
| Metal Soft Dr/FW/FJD/SpD/EnD 500-999mL | 2 | 1.2 |
| Glass Cider 150-499mL | 2 | 0.75 |
| Plastic Water 150-499mL | 2 | 0.75 |
| Plastic Soft Dr/FW/FJD/SpD/EnD 150-499mL | 2 | 0.75 |
| Metal Cider/fruit based 500-999mL | 1 | 0.6 |
| Plastic Fruit/vegetable juice 500-999mL | 1 | 0.6 |
| Glass Premixed spirit drinks 150-499mL | 1 | 0.38 |
| Paper and Card Fruit Juice 150-499mL | 1 | 0.38 |
| Plastic Fruit/vegetable juice 150-499mL | 1 | 0.38 |
| **Total** | **126** | **55.13** |

Note: FW/FJD/SpD/EnD refers to Flavoured water, Fruit juice drink, Sports drink and Energy drink.

## CDS CONTAINERS BY BEVERAGE TYPE - NOVEMBER 22

| # | Beverage Type |
|---|---|
| 1 | Wine Cooler |
| 60 | Beer |
| 4 | Cider |
| 13 | Flav Milk |
| 5 | Juice |
| 12 | Premix Alcohol |
| 57 | Soft Drink |
| 9 | Water |

## CDS CONTAINERS BY BEVERAGE TYPE - MAY 23

| # | Beverage Type |
|---|---|
| 0 | Wine Cooler |
| 27 | Beer |
| 3 | Cider |
| 18 | Flav Milk |
| 3 | Juice |
| 12 | Premix Alcohol |
| 53 | Soft Drink |
| 10 | Water |

## CDS CONTAINERS BY SITE



Count at November 22        Count at May 23
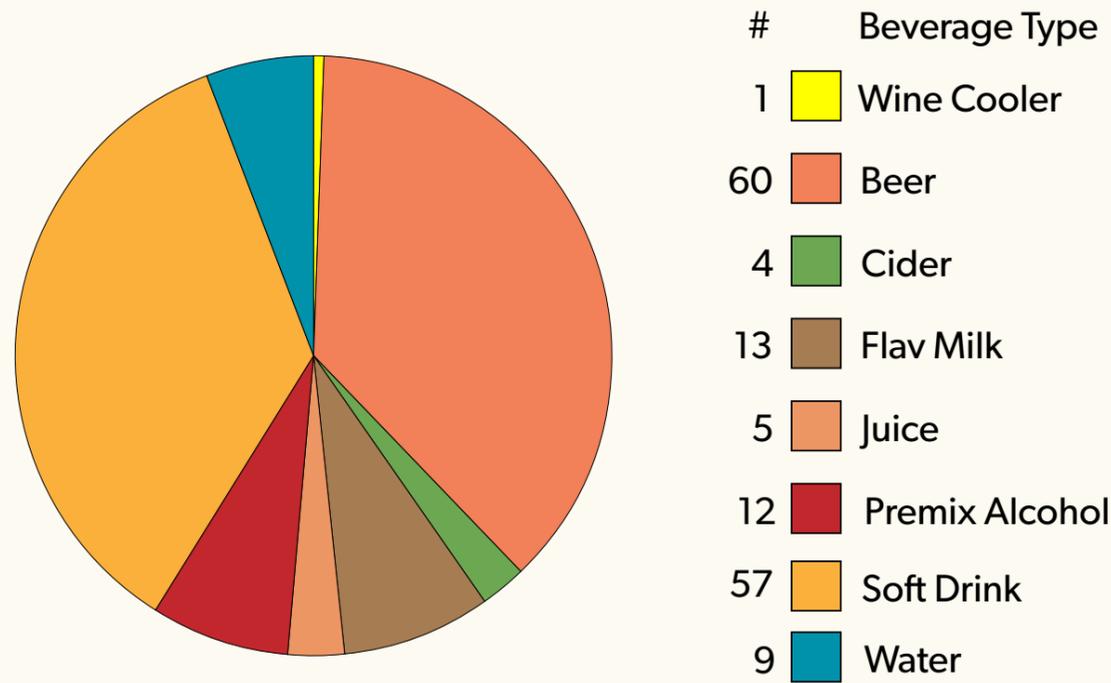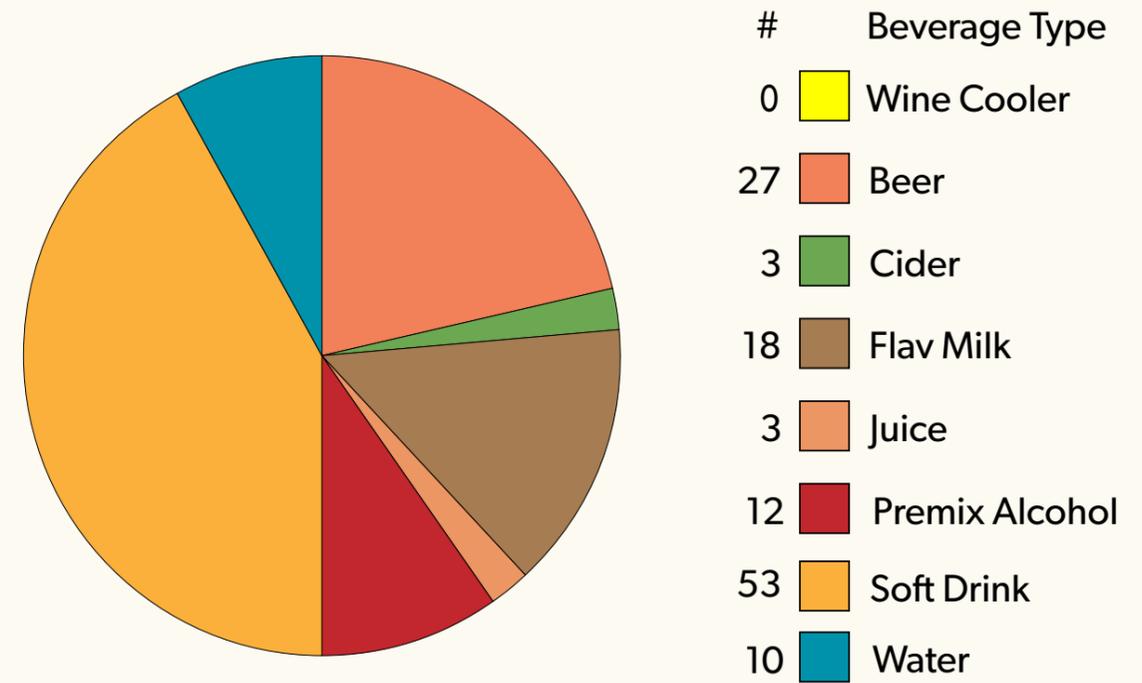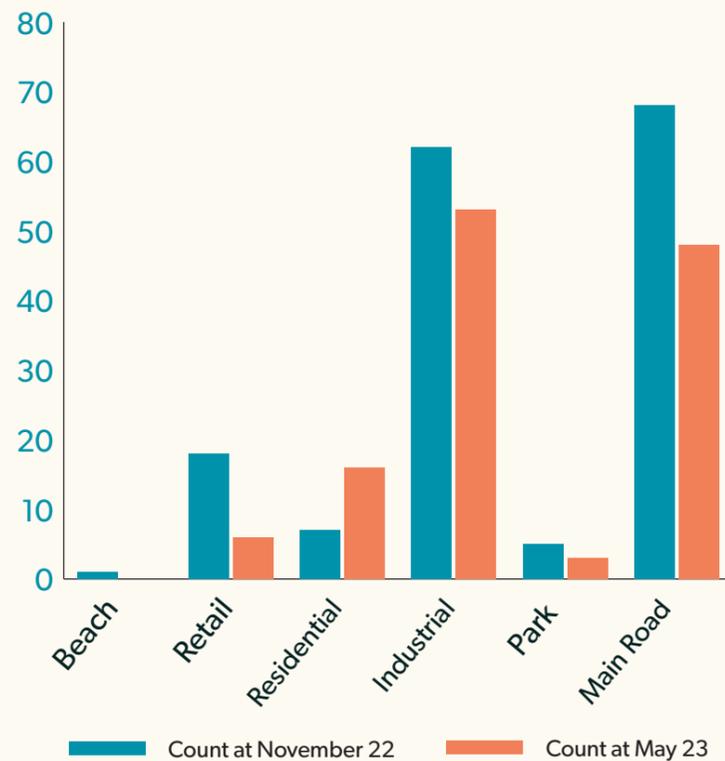
The quantity of CDS Containers by Beverage type remained relatively stable between November 22 and May 23, with the exception of Beer, which showed a significant reduction from 60 down to 27.

## Other Non-CDS Beverage Containers

Across both survey periods, in addition to the above-reported CDS eligible containers there were a further 37 containers found that were classified as not eligible for the CDS scheme (23 in November 22 and 14 in May 23). This included 19 plastic beverage containers of various beverage types, classified outside the eligible volumes for the CDS scheme, and a further 9 ineligible glass containers (wine and non premix spirits). Total beverage containers (including CDS and non-CDS eligible) are shown below:

| Category count as a % of total items | 0.94% |
|---|---|
| Category volume as a % of total volume | 6.90% |

# Cigarette Butts and Filters

**Cigarette Butts and Filters** were the highest individual litter item by count in both survey periods. In 2022/23, there was 32.95 cigarette butts counted per 1,000 sqm.

Retail sites represented the largest contribution, accounting for 42% and 38% of the total cigarette butts counted in November 22 and May 23 respectively.

The highest individual site count for cigarette butts was at a Retail site in both survey periods.

Out of 57 sites surveyed each period, there were 7 where no cigarette butts were observed in November 22, and 6 in May 23. Cigarette butt bins were only observed at one site during each survey period.

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 4,161 | 2,751 |
| Total Volume of Items- (l) | 8.32 | 5.502 |
| Highest Site Litter Count – Number (#) | 468 | 252 |
| Highest Site Litter Count – Volume (l) | 0.94 | 0.50 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

| | |
|---|---|
| Category count as a % of total items | 20.10% |
| Category volume as a % of total volume | 0.61% |

**CONCENTRATION OF CIGARETTE BUTTS AND FILTERS - NOVEMBER 22**



0.19% Beach
42% Retail
6% Residential
21% Industrial
5% Park
26% Main Road

**CONCENTRATION OF CIGARETTE BUTTS AND FILTERS - MAY 23**



1% Beach
38% Retail
11% Residential
26% Industrial
3% Park
21% Main Road
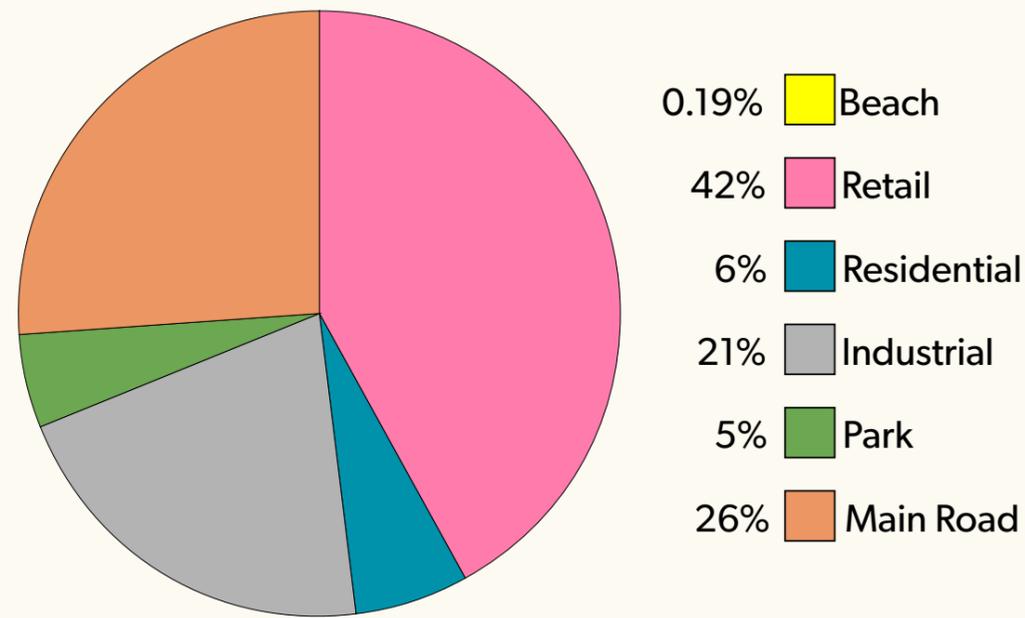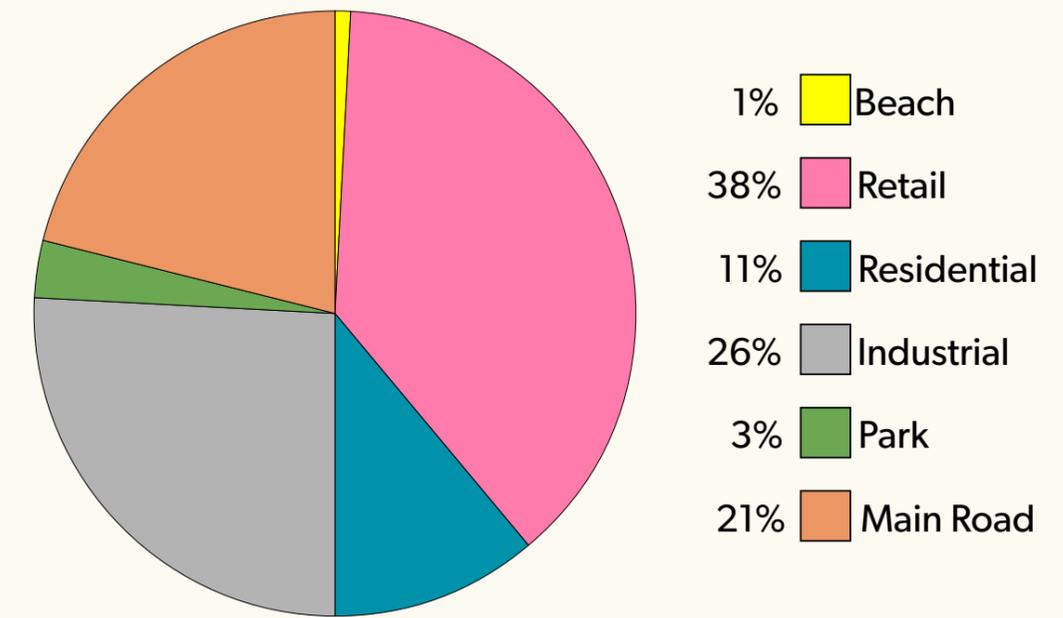
## COMPARISON: CIGARETTE BUTTS AGAINST TOTAL LITTER COUNT



Total Cigarette Butts          Total Litter Items

## CIGARETTE BUTTS AND FILTERS BY SITE



Count at November 22          Count at May 23
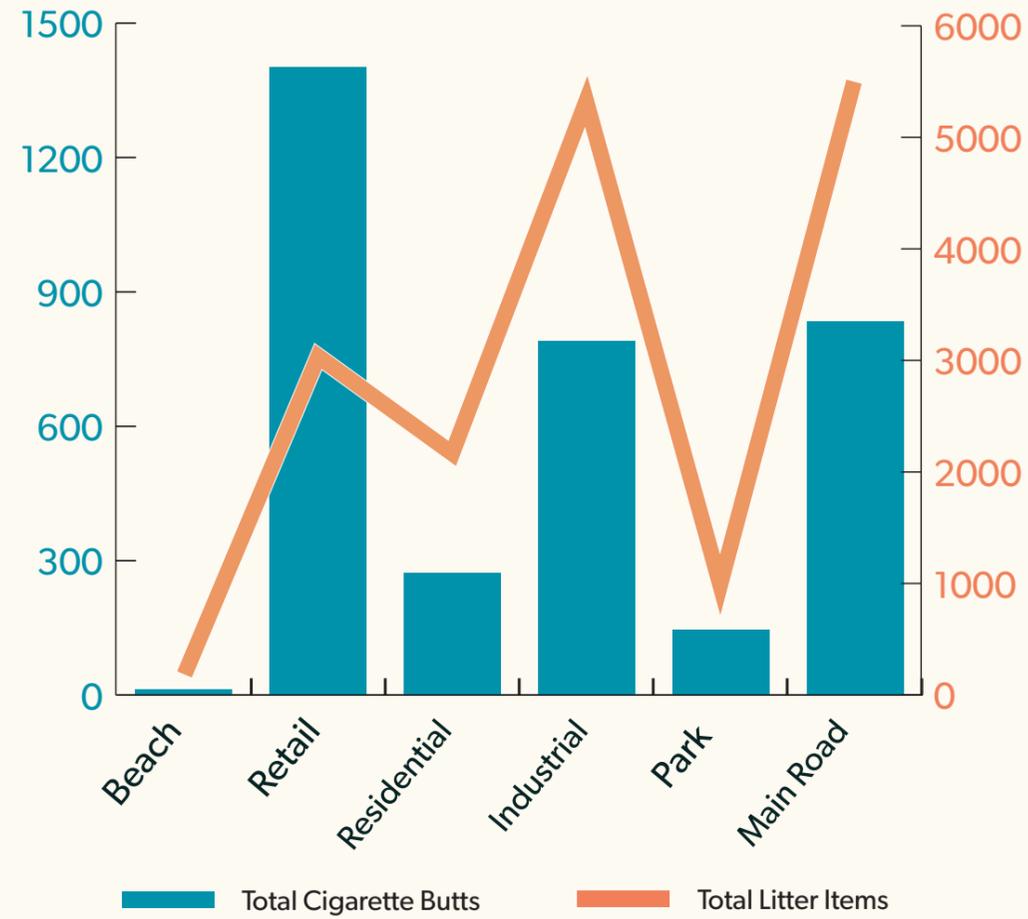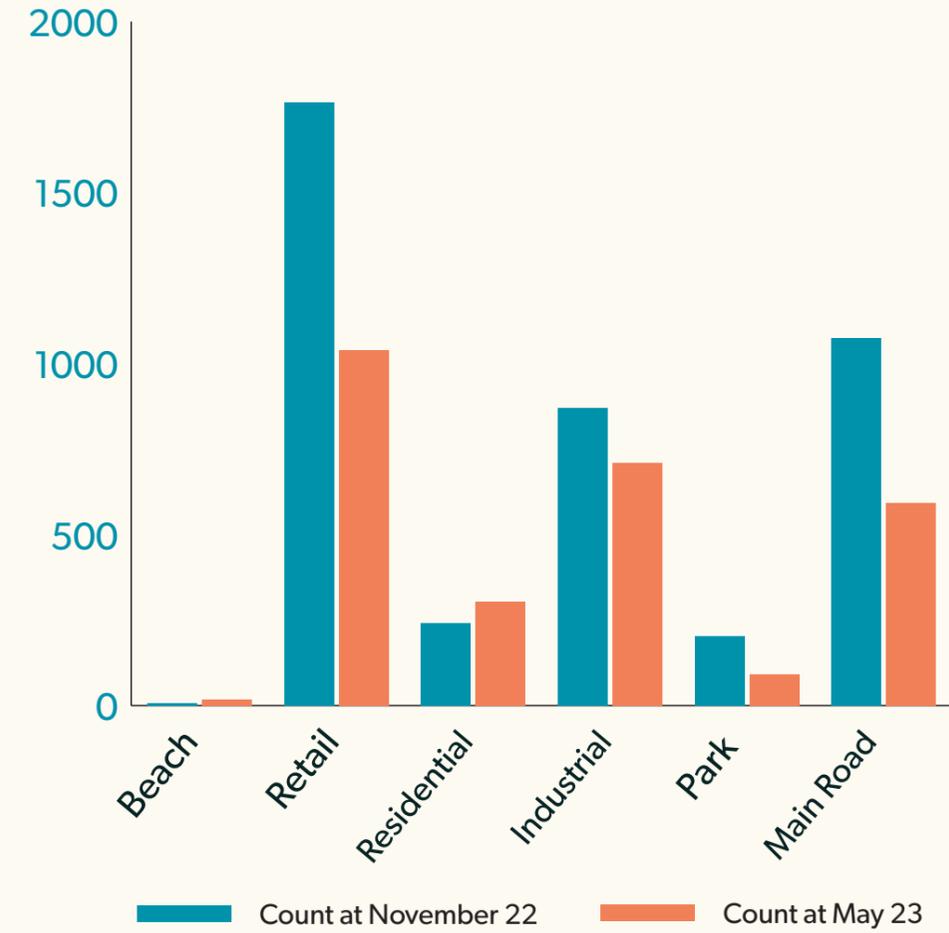
The aggregated total of **Cigarette Butts and Filters** counted is largely aligned with the total litter count for the majority of sites aside from Retail, which shows Cigarette butts well exceeding the Total Litter Items trend line. This indicates that the density of Cigarette butts at Retail sites is significantly elevated.

# Takeaway Food Packaging

Items in this section include a variety of materials that are used to package, wrap and transport takeaway and convenience food and beverages. The Count Sheet at Appendix 4 details the items captured in this category.

In November 22, compared to the total litter items, Takeaway Food Packaging represented 13.30% of the total count and 22.46% of the volume. In May 23, this alters to 15.08% of total items, and 20.47% of the total volume.

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 2,553 | 2,293 |
| Total Volume of Items- (l) | 238.38 | 244.95 |
| Highest Site Litter Count – Number (#) | 441 | 338 |
| Highest Site Litter Count – Volume (l) | 37.84 | 48.47 |
| Lowest Site Litter Count – Number (#) | 1 | 0 |
| Lowest Site Litter Count – Volume (l) | 0.05 | 0 |

| | |
|---|---|
| Category count as a % of total items | 14.09% |
| Category volume as a % of total volume | 21.40% |

**CONCENTRATION OF TAKEAWAY FOOD PACKAGING - NOVEMBER 22**
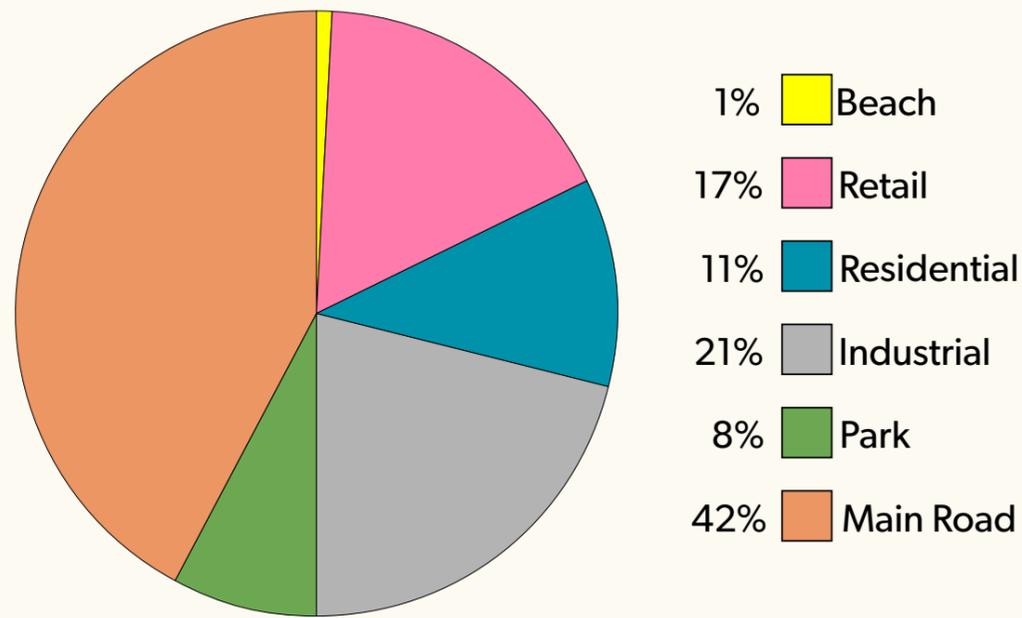


1% Beach
17% Retail
11% Residential
21% Industrial
8% Park
42% Main Road

**CONCENTRATION OF TAKEAWAY FOOD PACKAGING - MAY 23**



2% Beach
17% Retail
11% Residential
25% Industrial
5% Park
40% Main Road
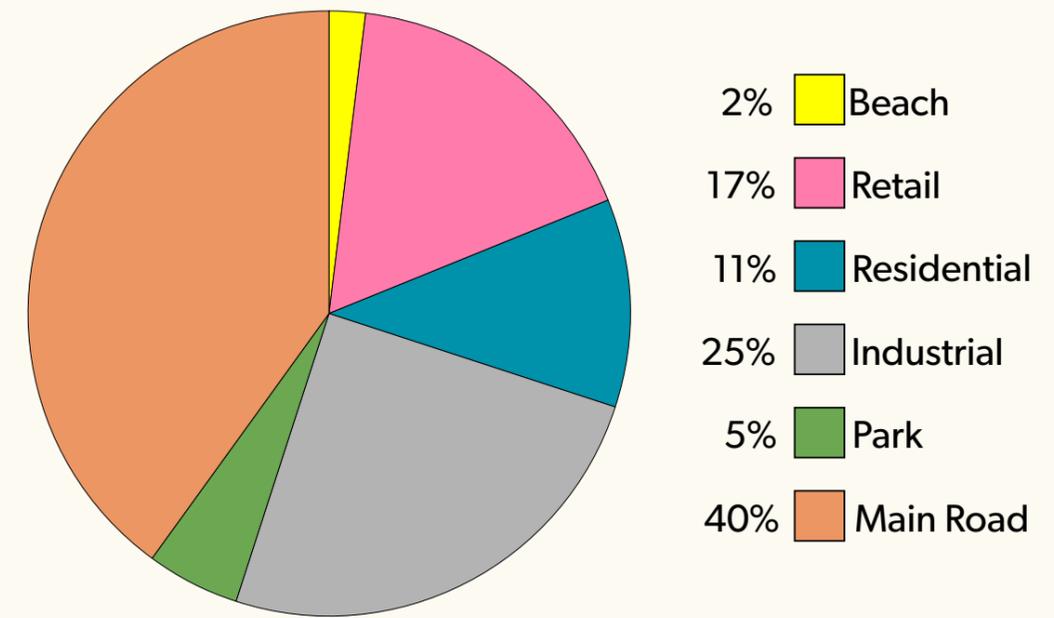
## CATEGORY DETAIL – TAKEAWAY FOOD PACKAGING NOVEMBER 22

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Food/confect. Wrappers | 1,145 | 57.25 |
| Lids, bottle tops, can ring pulls | 323 | 0.65 |
| Lids - Beverage container lids /caps | 291 | 5.82 |
| Paper/card food packaging | 251 | 125.5 |
| Lids - Plastic cup lid | 77 | 1.54 |
| Straws | 77 | 0.39 |
| Cup - Coffee cup | 75 | 15 |
| Lids - Other | 73 | 1.46 |
| Lids -Coffee cup lid | 59 | 1.18 |
| Lollipop Sticks | 52 | 0.05 |
| Cup - Other paper cup | 44 | 8.8 |
| Cup – Single use | 29 | 5.8 |
| Takeaway food container | 26 | 13 |
| Cutlery/chopsticks | 16 | 0.16 |
| Ice Cream Stick | 6 | 0.01 |
| Ice cream wrappers | 4 | 0.08 |
| Food pack./clam shells | 2 | 1 |
| Foil takeaway container | 1 | 0.5 |
| Cups (foam) | 1 | 0.2 |
| Stirrers | 1 | 0.001 |
| Plate/bowl – single use | 0 | 0 |
| Six pack rings | 0 | 0 |
| **Total** | **2,553** | **238.38** |

## CATEGORY DETAIL – TAKEAWAY FOOD PACKAGING MAY 23

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Food/confect. Wrappers | 813 | 40.65 |
| Lids - Beverage container lids /caps | 371 | 7.42 |
| Lids, bottle tops, can ring pulls | 324 | 0.65 |
| Paper/card food packaging | 262 | 131.00 |
| Cup - Coffee cup | 80 | 16.00 |
| Lids - Plastic cup lid | 67 | 1.34 |
| Lids - Other | 60 | 1.20 |
| Cup - Other paper cup | 56 | 11.20 |
| Lollipop Sticks | 48 | 0.05 |
| Takeaway food container | 47 | 23.50 |
| Lids -Coffee cup lid | 44 | 0.88 |
| Straws | 41 | 0.21 |
| Cup – Single use | 20 | 4.00 |
| Ice Cream Stick | 16 | 0.01 |
| Cutlery/chopsticks | 12 | 0.12 |
| Ice cream wrappers | 11 | 0.22 |
| Foil takeaway container | 7 | 3.50 |
| Six pack rings | 5 | 1.00 |
| Cups (foam) | 4 | 0.80 |
| Food pack./clam shells | 2 | 1.00 |
| Stirrers | 2 | 0.002 |
| Plate/bowl – single use | 1 | 0.20 |
| **Total** | **2,293** | **244.95** |

## COMPARISON: TAKEAWAY FOOD PACKAGING AGAINST TOTAL LITTER COUNT



Total Takeaway Items  Total Litter Items
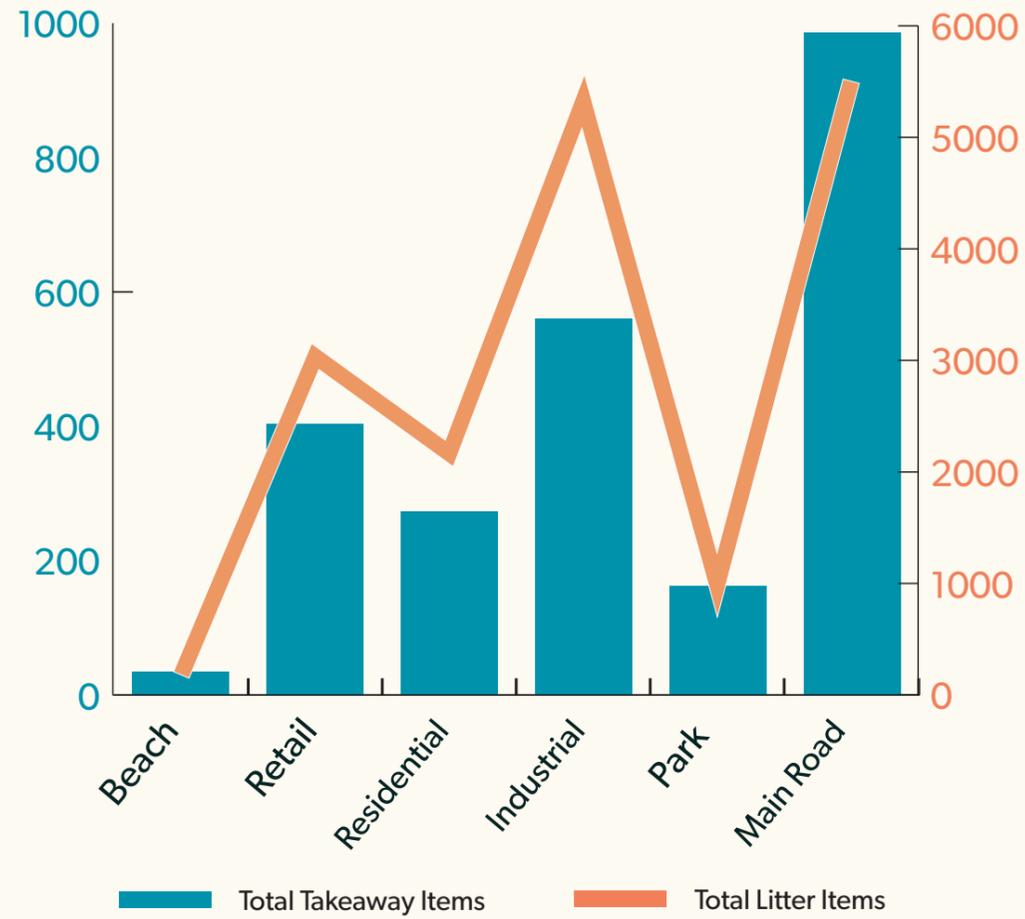
## TAKEAWAY FOOD PACKAGING BY SITE



Count at November 22  Count at May 23
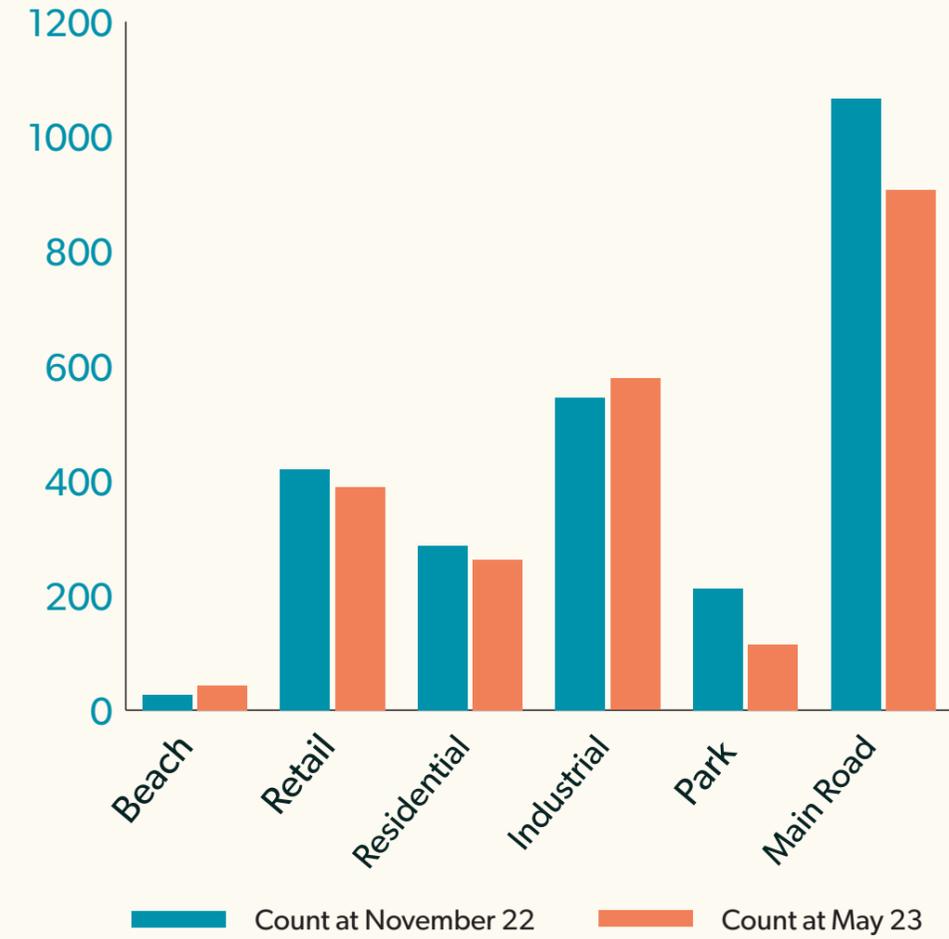
On an aggregated basis, the total of **Takeaway Food Packaging** counted is quite closely aligned with the total litter count for the majority of sites. Industrial shows the most significant differential, which anecdotally indicates that **Takeaway Food Packaging** is not one of the key drivers of the high litter counts seen at this site type.

# Polystyrene

This category captures Polystyrene takeaway food packaging and cups, insulation and packaging, and fragments.

## CONCENTRATION OF POLYSTYRENE - NOVEMBER 22



- 1% Beach
- 4% Retail
- 12% Residential
- 35% Industrial
- 4% Park
- 44% Main Road

## CONCENTRATION OF POLYSTYRENE - MAY 23



- 0% Beach
- 5% Retail
- 20% Residential
- 47% Industrial
- 1% Park
- 27% Main Road
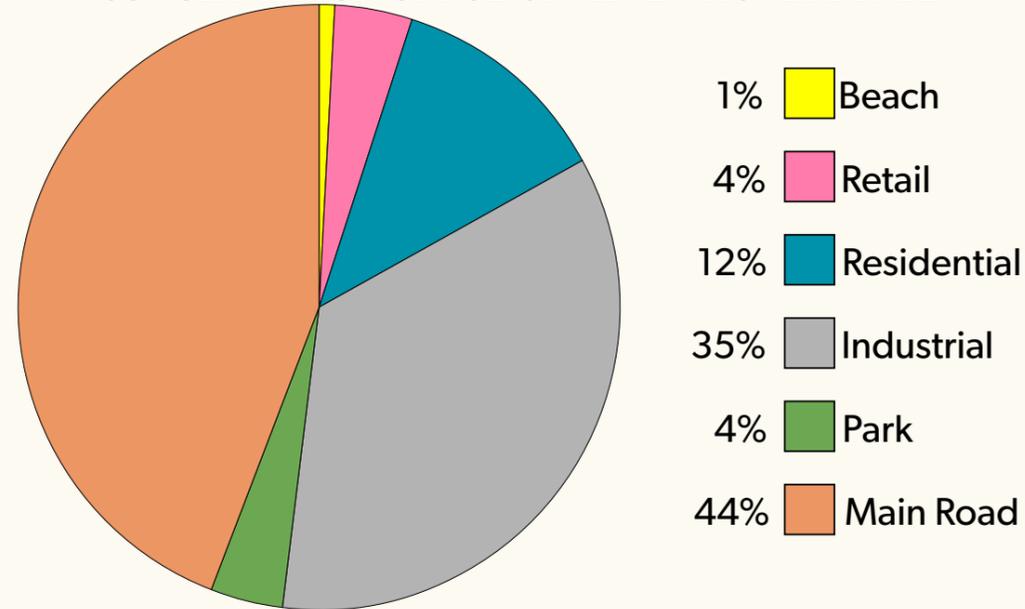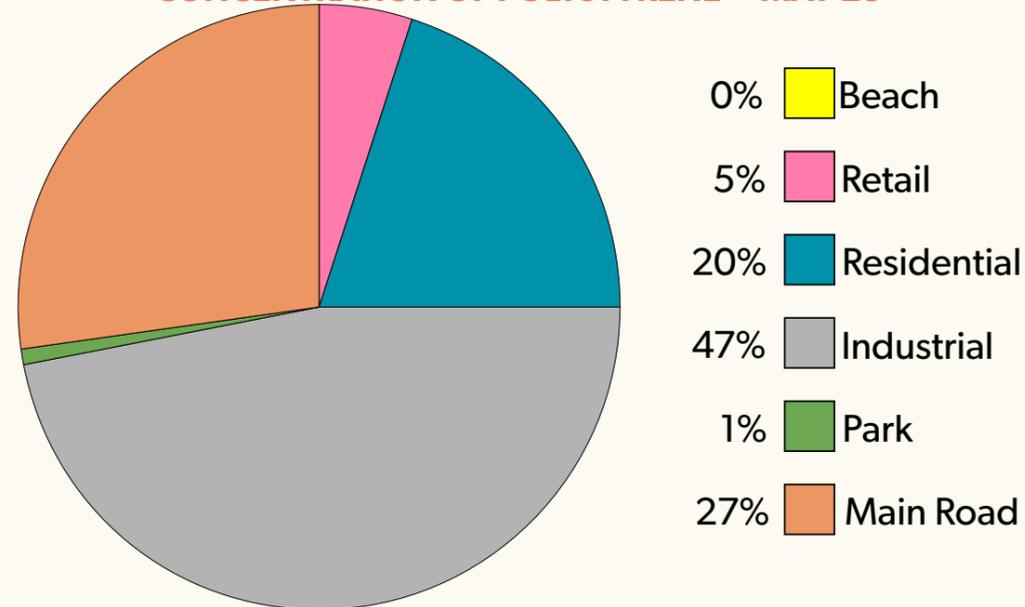
| | |
|---|---|
| Category count as a % of total items | 2.36% |
| Category volume as a % of total volume | 3.91% |

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 499 | 313 |
| Total Volume of Items- (l) | 51.23 | 37.18 |
| Highest Site Litter Count – Number (#) | 86 | 38 |
| Highest Site Litter Count – Volume (l) | 8.79 | 5.67 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

### CATEGORY DETAIL - POLYSTYRENE - NOVEMBER 22

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Polystyrene fragment – small | 389 | 9.34 |
| Polystyrene fragment – medium | 47 | 2.26 |
| Insulation & Packaging | 29 | 29.00 |
| Other polystyrene item | 16 | 8.00 |
| Polystyrene fragment – large | 15 | 1.44 |
| Food pack./clam shells | 2 | 1.00 |
| Cups (foam) | 1 | 0.20 |
| **Total** | **499** | **51.23** |

### CATEGORY DETAIL - POLYSTYRENE - MAY 23

| Item | Number of Items (#) | Total Volume (l) |
|---|---|---|
| Polystyrene fragment – small | 197 | 4.73 |
| Polystyrene fragment -  medium | 61 | 2.93 |
| Insulation & Packaging | 21 | 21 |
| Polystyrene fragment- large | 18 | 1.73 |
| Other polystyrene item | 10 | 5 |
| Cups (foam) | 4 | 0.8 |
| Food pack./clam shells | 2 | 1 |
| **Total** | **313** | **37.18** |

# Fragments

The AusLM Field Guide defines Fragments as "pieces of litter [that are] either no longer identifiable as a whole item, or there is less than half of the whole item found in one or multiple contributing pieces"

Fragments were classified based on their source material, and size;

- small (2.5 cm to 8 cm)
- medium (8 cm to 16 cm)
- large (larger than 16 cm)

| Category count as a % of total items | 41.39% |
|---|---|
| Category volume as a % of total volume | 7.72% |

As demonstrated in the **Count of Fragments by Source Material** graph, total fragments counted, across all materials have reduced in May 23, compared to November 22.

As a %, Hard Plastic has shown the smallest reduction between periods (decreasing by just 6.89%). Soft Plastic showed the most significant reduction between periods, reducing by 43.63%.

In 2022/23, Paper and Card make up the largest proportion of Fragments, accounting for 29.23% of the total, followed closely by Hard Plastic, which represents a further 28.05% of the total fragments counted.

**COUNT OF FRAGMENTS BY SOURCE MATERIAL**



**PROPORTION OF FRAGMENTS BY SOURCE MATERIAL**



2% Cloth
7% Glass
28% Hard Plastic
4% Metal
29% Paper and Card
6% Polystyrene
4% Rubber
20% Soft Plastic
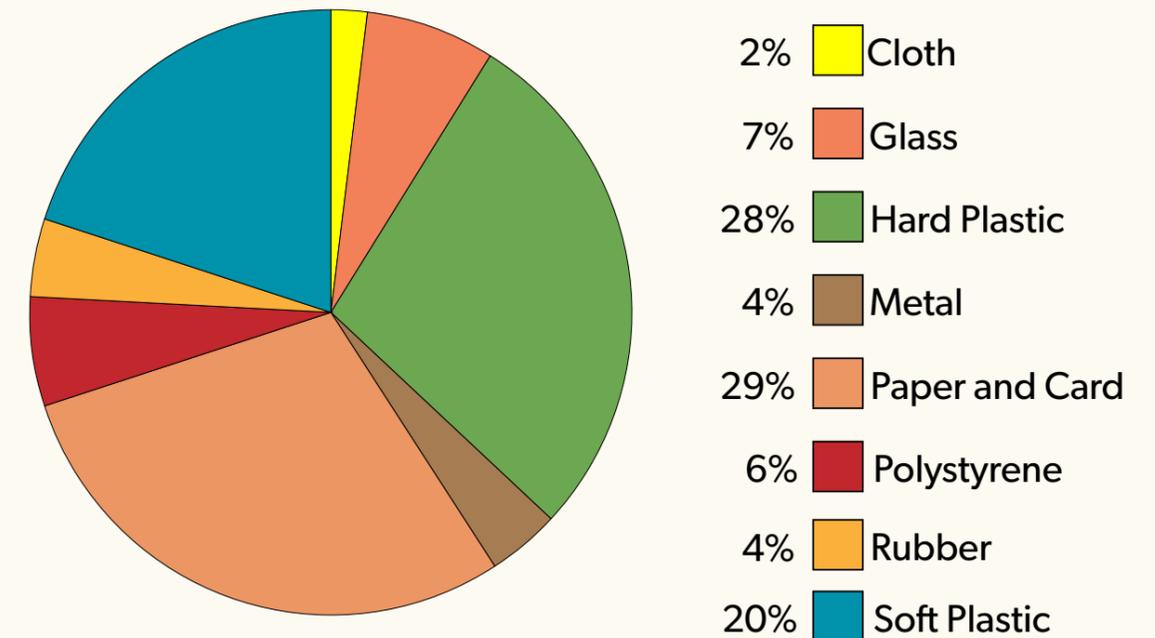
# 5.0  Other Observations

## Items of Note - Facemasks

Over the past three and a half years, the Coronavirus Pandemic has resulted in Public Health Orders, including periods of Facemask mandates across the Perth metropolitan area.

Although there was reduced mask mandates in place during the second half of 2022, total **Facemasks** recorded maintained a similar level to the May 22 baseline survey, with 79 counted (compared to 80 in May 22). This included 71 disposable and 8 reusable.

A notable reduction was seen in the May 23 survey, with just 24 **Facemasks** recorded, (including 21 disposable and 3 reusable).

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 79 | 24 |
| Total Volume of Items- (l) | 7.9 | 2.4 |
| Highest Site Litter Count – Number (#) | 23 | 3 |
| Highest Site Litter Count – Volume (l) | 2.3 | 0.3 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

| | |
|---|---|
| Category count as a % of total items | 0.30% |
| Category volume as a % of total volume | 0.46% |

### DISTRIBUTION OF FACEMASKS - NOVEMBER 22



| # | Site |
|---|---|
| 1 | Beach |
| 11 | Retail |
| 5 | Residential |
| 18 | Industrial |
| 2 | Park |
| 42 | Main Road |

### DISTRIBUTION OF FACEMASKS - MAY 23



| # | Site |
|---|---|
| 0 | Beach |
| 3 | Retail |
| 2 | Residential |
| 12 | Industrial |
| 3 | Park |
| 4 | Main Road |
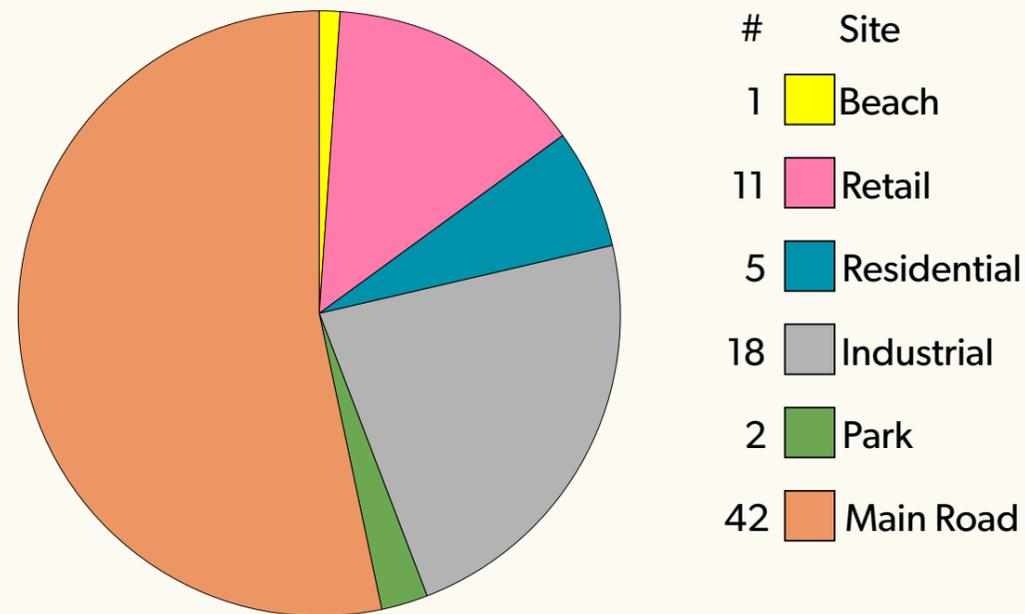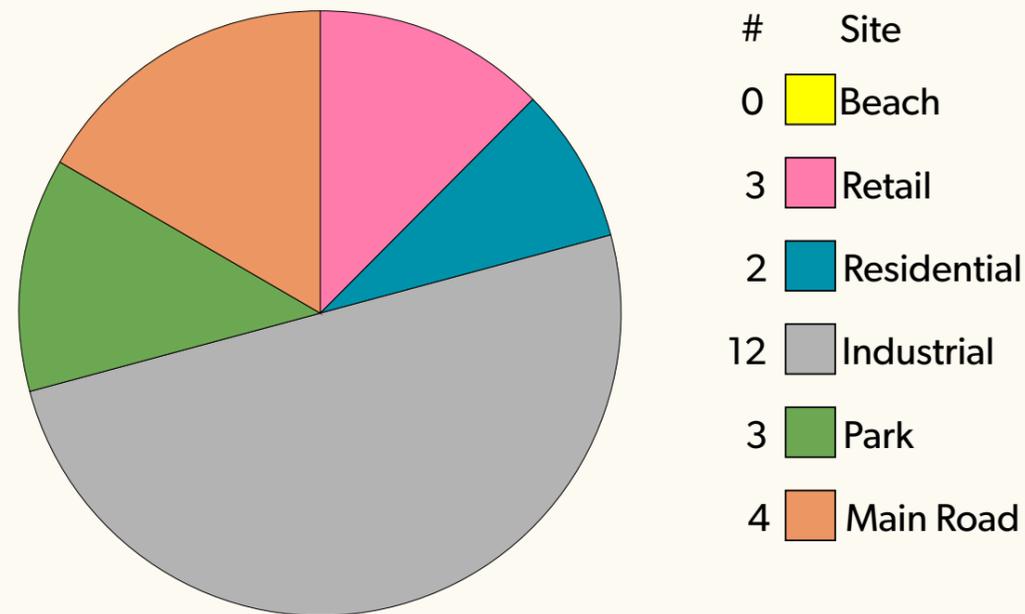
### COUNT OF FACEMASKS BY SITE



Count at November 22 — Count at May 23
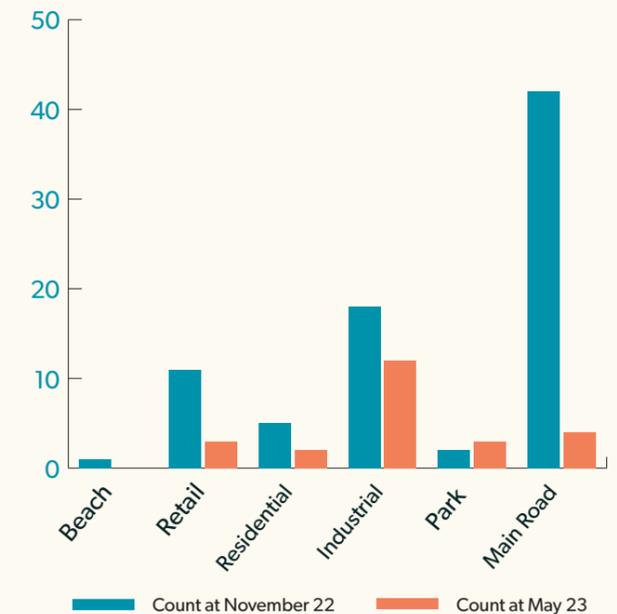
# *Items of Note - Vape Pens and Vape Packaging*

While the total count is still relatively low, **Vape Pens and Vape Packaging** has shown a significant increase between the November 22 and May 23 counts.

In November 22, there were just four sites where **Vape Pens and Vape Packaging** were recorded.

In May 23, this increased to 13 sites, with six out of ten Industrial sites surveyed recording at least one **Vape Pen or Vape Packaging**.

| KEY ITEM SNAPSHOT | | |
|---|---|---|
| | **NOV 22** | **MAY 23** |
| Total Number of Items - (#) | 6 | 26 |
| Total Volume of Items- (l) | 0.3 | 1.3 |
| Highest Site Litter Count – Number (#) | 2 | 6 |
| Highest Site Litter Count – Volume (l) | 0.10 | 0.3 |
| Lowest Site Litter Count – Number (#) | 0 | 0 |
| Lowest Site Litter Count – Volume (l) | 0 | 0 |

| | |
|---|---|
| Category count as a % of total items | 0.09% |
| Category volume as a % of total volume | 0.07% |

**DISTRIBUTION OF VAPE PENS/PACKAGING  -  NOVEMBER 22**



| # | Site |
|---|---|
| 0 | Beach |
| 1 | Retail |
| 3 | Residential |
| 0 | Industrial |
| 0 | Park |
| 2 | Main Road |

**DISTRIBUTION OF VAPE PENS/PACKAGING  -  MAY 23**



| # | Site |
|---|---|
| 1 | Beach |
| 2 | Retail |
| 2 | Residential |
| 18 | Industrial |
| 0 | Park |
| 3 | Main Road |
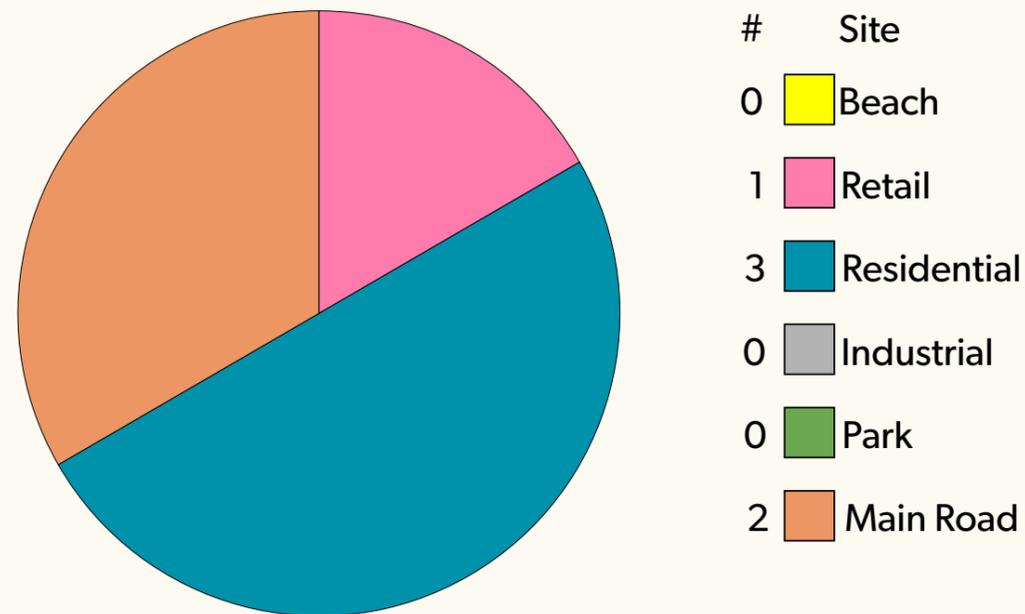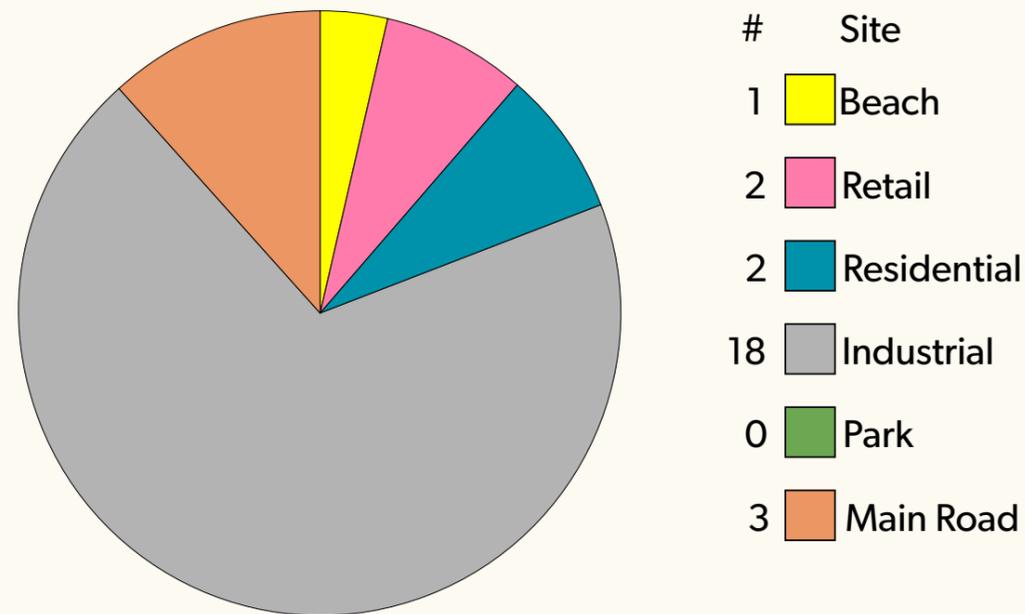
**COUNT OF VAPE PENS/ PACKAGING BY SITE**



Count at November 22    Count at May 23
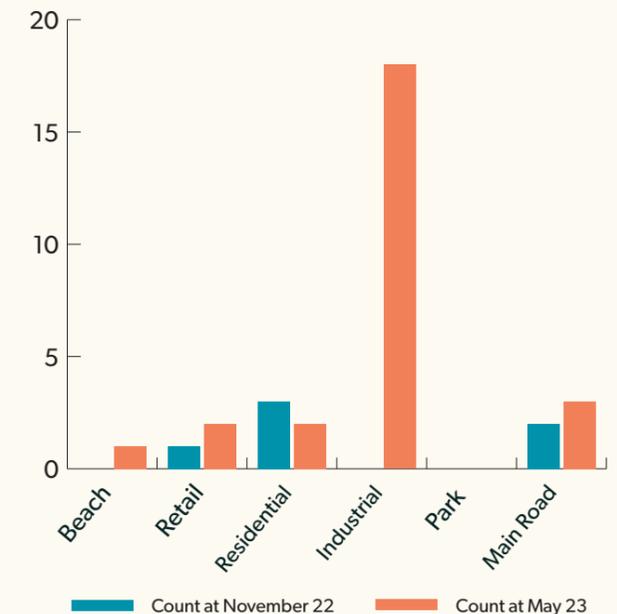
## Illegal Dumping

There were a number of occasions where illegal dumping was observed during the litter surveys. Per the AusLM Field Guide the items of illegal dumping were excluded from the count and the area containing the items plus a one metre buffer was excluded from the surveyed area.

In November 22, five instances of dumping were noted within a specific transect. In Industrial sites, illegal dumping was reported on three occasions, with items dumped including household appliances and small furniture, pallets and signage. One instance of illegal dumping was also recorded in both a Residential and Main Road site. The total volume of illegal dumping recorded was two small loads, and three medium.

In May 23, eight instances of illegal dumping were recorded, including one instance in a Retail site, five instances in a Residential site and two instances in an Industrial site. Items included construction waste, carpets, small furniture and bags of household items. The total estimated volume was four small loads, and four medium loads.
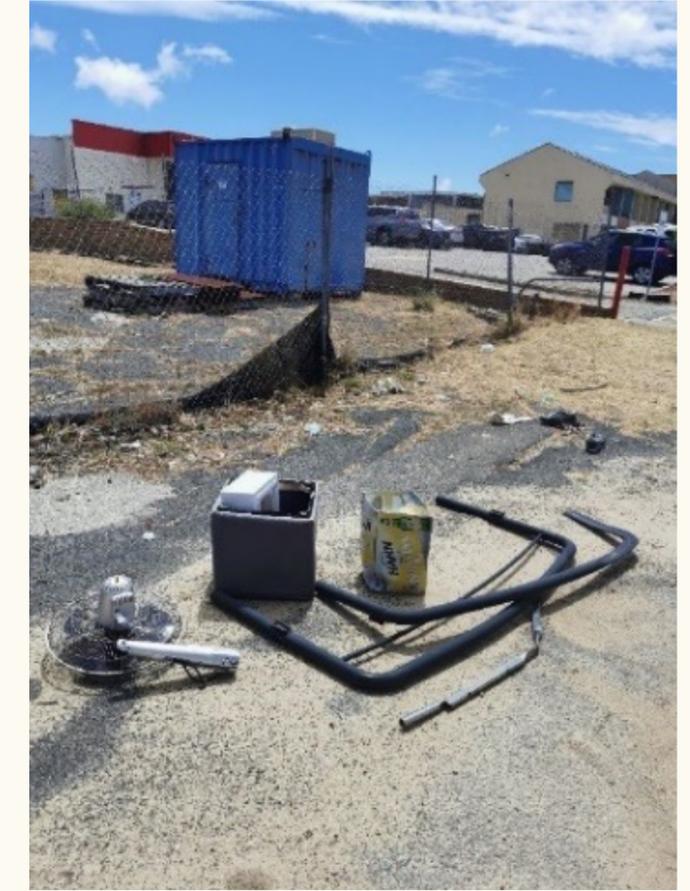
# 6.0 Appendices

## Appendix 1
## Site Type Assessment Checklist

**RESIDENTIAL AREA**

| | |
|---|---|
| Summary | A street/collection of streets in a residential area. The street has homes, units, or apartments on both sides of the street. |
| Inclusion criteria | ☐ Houses, multi-unit developments, apartments and townhouses on both sides of the street. |
| Exclusion criteria | ☐ Streets maximum speed limits greater than 60 km/h.<br>☐ Dead end/blind-ended streets (e.g. courts, cul-de-sac)<br>☐ Streets with schools or other significant public amenity (though these can be nearby in neighbouring streets). |

**RETAIL AREA**

| | |
|---|---|
| Summary | A street/collection of streets within a retail precinct (i.e. shopfronts). |
| Inclusion criteria | ☐ Majority of street contains retail shops and food stores. A small fraction of other building types (e.g. a library, a small office frontage) is allowed. The retail strip might be only on one side of the road or both. Buildings that have retail fronts/at ground level and residential above can be included. |
| Exclusion criteria | ☐ A strip that is dominated by restaurants/pubs (i.e. more than 80% of the land use areas). |

**INDUSTRIAL AREA**

| | |
|---|---|
| Summary | A street/collection of streets in an industrial area. |
| Inclusion criteria | ☐ Streets will include factories, industrial offices, warehouses, workshops or other industrial buildings. |
| Exclusion criteria | ☐ Industrial areas that are accessed by a private road. e.g. Industrial parks where the listed address is the main road at the front of the estate.<br>☐ More than 10% of the street length contains retail shops. |

**RECREATIONAL PARK**

| | |
|---|---|
| Summary | A public outdoor space frequently visited by individuals and families for recreation and leisure. |
| Inclusion criteria | ☐ Has **one or more** of the following: a playground or covered eating area (e.g. a rotunda) or barbeque or similar substantial piece of infrastructure.<br>☐ 50% or more open area (i.e. grass, paths) that is not playgrounds or dense vegetation. |
| Exclusion criteria | ☐ Parks with food retail outlets (kiosks, takeaway stores etc.) within the site or within 50 m of the park boundary. |

**BEACH**

| | |
|---|---|
| Summary | A mostly sandy beach frequently visited by people for activities such as swimming, walking, other recreation and relaxation. |
| Inclusion criteria | ☐ The majority (i.e. 90% or more) of the beach area to be sampled is sand (or sand covered in seaweed etc.). |
| Exclusion criteria | ☐ Piers, jetties, wharves or boat ramps are within 100 metres of the location of the transects to be surveyed. |

**MAIN ROAD**

| | |
|---|---|
| Summary | Straight open stretches of sealed road with wide verges. Roads that typically act as an arterial for traffic between and around population centres. |
| Inclusion criteria | ☐ A main road linking population centres (towns/cities)<br>☐ Vegetation bordering each side of the road |
| Exclusion criteria | ☐ Petrol stations, fast food outlets and service centres within 2 km of the site<br>☐ Site has bridges, overpasses, rest stops, turn-offs, intersections (except driveways), and slipways<br>☐ Areas with steeply sloped verges (i.e. >45$^0$) are excluded. |

# Appendix 2
# Total Items and Volume in Count Sheet Format

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| PLASTIC | Cigarette butts and filters | 3,456 | 32.95 | 6.91 | 0.07 |
| | Bag - Dog Poo | 9 | 0.08 | 1.70 | 0.02 |
| | Bag - Fruit/Veg | 5 | 0.05 | 1.00 | 0.01 |
| | Bag - Green Reusable | 2 | 0.01 | 1.50 | 0.01 |
| | Bag - Heavy Boutique | 4 | 0.03 | 3.50 | 0.03 |
| | Bag - Heavy Supermrkt | 4 | 0.04 | 4.00 | 0.04 |
| | Bag – Ice | 2 | 0.01 | 0.75 | 0.01 |
| | Bag -Lightweight shop | 7 | 0.07 | 1.40 | 0.01 |
| | Bag - Mesh Bags | 3 | 0.02 | 0.25 | 0.00 |
| | Bag - Other | 96 | 0.92 | 19.20 | 0.18 |
| | Bread Bag Tags/twist ties | 12 | 0.11 | 0.01 | 0.00 |
| | Cable ties | 217 | 2.06 | 1.08 | 0.01 |
| | Cigarette Lighters | 4 | 0.03 | 0.04 | 0.00 |
| | Cigarette packet cellophane wrap | 14 | 0.13 | 0.01 | 0.00 |
| | Cotton buds/tips | 10 | 0.09 | 0.01 | 0.00 |
| | Cup – Single use | 25 | 0.23 | 4.90 | 0.05 |
| | Cup – Reusable | 2 | 0.02 | 0.40 | 0.00 |
| | Cutlery/chopsticks | 14 | 0.13 | 0.14 | 0.00 |
| | Fishing related | 2 | 0.02 | 0.10 | 0.00 |
| | Food/confect. Wrappers | 979 | 9.33 | 48.95 | 0.47 |
| | Lids - Beverage container lids /caps | 331 | 3.16 | 6.62 | 0.06 |
| | Lids - Plastic cup lid | 72 | 0.69 | 1.44 | 0.01 |
| | Lids -Coffee cup lid | 52 | 0.49 | 1.03 | 0.01 |
| | Lids - Other | 67 | 0.63 | 1.33 | 0.01 |
| | Lollipop Sticks | 50 | 0.48 | 0.05 | 0.00 |
| | Non-Food Bottle | 16 | 0.15 | 8.00 | 0.08 |
| | Non-Food package | 53 | 0.50 | 26.25 | 0.25 |
| | Other Food Package | 45 | 0.42 | 22.25 | 0.21 |
| | Plate/bowl – single use | 1 | 0.00 | 0.10 | 0.00 |
| | Plate/bowl – reusable | 1 | 0.01 | 0.20 | 0.00 |
| | Plastic wrap non-food | 27 | 0.26 | 5.40 | 0.05 |
| | Six pack rings | 3 | 0.02 | 0.50 | 0.00 |
| | Strapping band | 104 | 0.99 | 20.70 | 0.20 |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| PLASTIC | Stirrers | 2 | 0.01 | 0.00 | 0.00 |
| | Straws | 59 | 0.56 | 0.30 | 0.00 |
| | Syringe | 1 | 0.00 | 0.01 | 0.00 |
| | Takeaway food container | 37 | 0.35 | 18.25 | 0.17 |
| | Tape/narrow soft plastic film | 282 | 2.68 | 14.08 | 0.13 |
| | Tobacco pouch | 1 | 0.01 | 0.10 | 0.00 |
| | Toys | 24 | 0.23 | 2.40 | 0.02 |
| | Whipper snipper cord | 21 | 0.20 | 0.10 | 0.00 |
| | **Other plastic item** | 209 | 1.99 | 20.85 | 0.20 |
| METAL | Aerosol cans | 1 | 0.00 | 0.15 | 0.00 |
| | Aluminium foil wrap | 295 | 2.81 | 29.45 | 0.28 |
| | Foil takeaway container | 4 | 0.04 | 2.00 | 0.02 |
| | Lids, bottle tops, can ring pulls | 324 | 3.08 | 0.65 | 0.01 |
| | **Other metal item** | 217 | 2.06 | 21.65 | 0.21 |
| GLASS | Glass jars | 2 | 0.02 | 0.75 | 0.01 |
| | **Other glass item** | 11 | 0.10 | 2.20 | 0.02 |
| PAPER & CARD | Cigarette packets | 50 | 0.48 | 5.00 | 0.05 |
| | Cup - Coffee cup | 78 | 0.74 | 15.50 | 0.15 |
| | Cup - Other paper cup | 50 | 0.48 | 10.00 | 0.10 |
| | Ice cream wrappers | 8 | 0.07 | 0.15 | 0.00 |
| | Junk mail / free circulars | 22 | 0.21 | 11.00 | 0.10 |
| | Newspaper/Magazine | 35 | 0.33 | 17.50 | 0.17 |
| | Packages & boxes | 63 | 0.60 | 31.25 | 0.30 |
| | Paper bags | 27 | 0.26 | 8.10 | 0.08 |
| | Paper/card food packaging | 257 | 2.45 | 128.25 | 1.22 |
| | Paper tissues/napkin | 327 | 3.12 | 16.35 | 0.16 |
| | Shopper dockets, tickets/receipts | 247 | 2.36 | 12.35 | 0.12 |
| | **Other paper & card** | 121 | 1.15 | 6.05 | 0.06 |
| RUBBER | Rubber band/hair tie | 53 | 0.51 | 0.27 | 0.00 |
| | Rubber toy | 8 | 0.08 | 0.40 | 0.00 |
| | Tyre pieces | 25 | 0.24 | 0.13 | 0.00 |
| | Tyres | 8 | 0.07 | 150.00 | 1.43 |
| | **Other rubber item** | 52 | 0.50 | 5.20 | 0.05 |
| POLY | Cups (foam) | 3 | 0.02 | 0.50 | 0.00 |
| | Food pack./clam shells | 2 | 0.02 | 1.00 | 0.01 |
| | Insulation & Packaging | 25 | 0.24 | 25.00 | 0.24 |
| | **Other polystyrene item** | 13 | 0.12 | 6.50 | 0.06 |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| **CLOTH** | Clothing | 56 | 0.53 | 56.00 | 0.53 |
| | **Other cloth item** | 104 | 0.99 | 20.70 | 0.20 |
| **OTHER MATERIALS** | Balloons | 13 | 0.12 | 0.63 | 0.01 |
| | Batteries | 14 | 0.13 | 0.14 | 0.00 |
| | Condom | 6 | 0.05 | 0.03 | 0.00 |
| | Construction materials | 119 | 1.13 | 42.66 | 0.41 |
| | Cotton buds/tips (non- plastic) | 2 | 0.01 | 0.00 | 0.00 |
| | Cutlery (non-plastic) | 28 | 0.27 | 0.28 | 0.00 |
| | Dog poo | 88 | 0.83 | 4.38 | 0.04 |
| | Electrical wire | 101 | 0.96 | 1.01 | 0.01 |
| | Face mask – disposable | 46 | 0.44 | 4.60 | 0.04 |
| | Face mask – reusable | 6 | 0.05 | 0.55 | 0.01 |
| | Fruit/vegetable/food | 74 | 0.70 | 14.70 | 0.14 |
| | Gum | 6 | 0.05 | - | - |
| | Ice Cream Stick | 11 | 0.10 | 0.01 | 0.00 |
| | Nappy | 2 | 0.01 | 0.75 | 0.01 |
| | Personal Effects | 26 | 0.24 | 5.10 | 0.05 |
| | Plate/bowl (non-plastic) | 1 | 0.01 | 0.20 | 0.00 |
| | Rope/string | 169 | 1.61 | 33.80 | 0.32 |
| | Sanitary Items | 14 | 0.13 | 2.80 | 0.03 |
| | Stirrers (non-plastic) | 3 | 0.02 | 0.01 | 0.00 |
| | Straw (non-plastic) | 108 | 1.03 | 0.54 | 0.01 |
| | Vape packaging | 5 | 0.05 | 0.25 | 0.00 |
| | Vape pen | 11 | 0.10 | 0.55 | 0.01 |
| | Vehicle parts | 3 | 0.03 | 0.15 | 0.00 |
| | Wet wipes | 116 | 1.10 | 5.78 | 0.06 |
| | Wooden items | 132 | 1.25 | 13.15 | 0.13 |
| | **Unknown item** | 23 | 0.21 | 2.25 | 0.02 |
| **BEVERAGES** | | | | | |
| **PLASTIC** | Drink pouches <150 ml | 1 | 0.01 | 0.12 | 0.00 |
| | Drink pouches 150-499mL | 1 | 0.01 | 0.38 | 0.00 |
| | Drink pouches 500-999mL | - | - | - | - |
| | Drink pouches 1000mL-3000mL | 2 | 0.01 | 2.25 | 0.02 |
| | Drink pouches >3000mL | - | - | - | - |
| | Flav. Milk <150 ml | 1 | 0.01 | 0.12 | 0.00 |
| | Flav. Milk 150-499mL | 7 | 0.06 | 2.44 | 0.02 |
| | Flav. Milk 500-999mL | 5 | 0.04 | 2.70 | 0.03 |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| **PLASTIC** | Flav. Milk 1000mL-3000mL | 1 | 0.01 | 1.50 | 0.01 |
| | Flav. Milk >3000mL | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 5 | 0.05 | 1.88 | 0.02 |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | 10 | 0.09 | 5.70 | 0.05 |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | 2 | 0.01 | 2.25 | 0.02 |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | - | - | - | - |
| | Fruit/vegetable juice <150 ml | 2 | 0.02 | 0.24 | 0.00 |
| | Fruit/vegetable juice 150-499mL | 3 | 0.02 | 0.94 | 0.01 |
| | Fruit/vegetable juice 500-999mL | 1 | 0.00 | 0.30 | 0.00 |
| | Fruit/vegetable juice 1000mL-3000mL | - | - | - | - |
| | Fruit/vegetable juice >3000mL | 1 | 0.00 | 1.75 | 0.02 |
| | Water <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Water 150-499mL | 3 | 0.02 | 0.94 | 0.01 |
| | Water 500-999mL | 5 | 0.04 | 2.70 | 0.03 |
| | Water 1000mL-3000mL | 2 | 0.02 | 3.00 | 0.03 |
| | Water >3000mL | 1 | 0.00 | 1.75 | 0.02 |
| | White milk <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | White milk 150-499mL | - | - | - | - |
| | White milk 500-999mL | - | - | - | - |
| | White milk 1000mL-3000mL | - | - | - | - |
| | White milk >3000mL | - | - | - | - |
| **METAL** | Beer <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Beer 150-499mL | 18 | 0.17 | 6.56 | 0.06 |
| | Beer 500-999mL | 2 | 0.01 | 0.90 | 0.01 |
| | Beer 1000mL-3000mL | - | - | - | - |
| | Beer >3000mL | - | - | - | - |
| | Cider/fruit based <150 ml | - | - | - | - |
| | Cider/fruit based 150-499mL | 1 | 0.01 | 0.38 | 0.00 |
| | Cider/fruit based 500-999mL | 1 | 0.01 | 0.60 | 0.01 |
| | Cider/fruit based 1000mL-3000mL | - | - | - | - |
| | Cider/fruit based >3000mL | - | - | - | - |
| | Premixed spirit drinks <150 ml | - | - | - | - |
| | Premixed spirit drinks 150-499mL | 10 | 0.09 | 3.56 | 0.03 |
| | Premixed spirit drinks 500-999mL | - | - | - | - |
| | Premixed spirit drinks 1000mL-3000mL | - | - | - | - |
| | Premixed spirit drinks >3000mL | - | - | - | - |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| **METAL** | Soft Dr/FW/FJD/SpD/EnD <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 32 | 0.30 | 11.81 | 0.11 |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | 3 | 0.02 | 1.50 | 0.01 |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | - | - | - | - |
| | Wine Bladders <150 ml | - | - | - | - |
| | Wine Bladders 150-499mL | - | - | - | - |
| | Wine Bladders 500-999mL | - | - | - | - |
| | Wine Bladders 1000mL-3000mL | - | - | - | - |
| | Wine Bladders >3000mL | - | - | - | - |
| **GLASS** | Wine <150 ml | - | - | - | - |
| | Wine 150-499mL | - | - | - | - |
| | Wine 500-999mL | 3 | 0.02 | 1.88 | 0.02 |
| | Wine 1000mL-3000mL | - | - | - | - |
| | Wine >3000mL | - | - | - | - |
| | Spirit <150 ml | - | - | - | - |
| | Spirit 150-499mL | - | - | - | - |
| | Spirit 500-999mL | 1 | 0.01 | 0.70 | 0.01 |
| | Spirit 1000mL-3000mL | 1 | 0.00 | 0.75 | 0.01 |
| | Spirit >3000mL | - | - | - | - |
| | Premixed spirit drinks <150 ml | - | - | - | - |
| | Premixed spirit drinks 150-499mL | 3 | 0.02 | 0.94 | 0.01 |
| | Premixed spirit drinks 500-999mL | - | - | - | - |
| | Premixed spirit drinks 1000mL-3000mL | - | - | - | - |
| | Premixed spirit drinks >3000mL | - | - | - | - |
| | Beer <150 ml | - | - | - | - |
| | Beer 150-499mL | 23 | 0.22 | 8.63 | 0.08 |
| | Beer 500-999mL | 2 | 0.01 | 0.90 | 0.01 |
| | Beer 1000mL-3000mL | - | - | - | - |
| | Beer >3000mL | - | - | - | - |
| | Cider <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Cider 150-499mL | 2 | 0.01 | 0.56 | 0.01 |
| | Cider 500-999mL | - | - | - | - |
| | Cider 1000mL-3000mL | - | - | - | - |
| | Cider >3000mL | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 5 | 0.04 | 1.69 | 0.02 |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| **GLASS** | Soft Dr/FW/FJD/SpD/EnD 500-999mL | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | - | - | - | - |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | - | - | - | - |
| | Fruit juice <150 ml | - | - | - | - |
| | Fruit juice 150-499mL | - | - | - | - |
| | Fruit juice 500-999mL | - | - | - | - |
| | Fruit juice 1000mL-3000mL | - | - | - | - |
| | Fruit juice >3000mL | - | - | - | - |
| | Water <150 ml | - | - | - | - |
| | Water 150-499mL | - | - | - | - |
| | Water 500-999mL | 1 | 0.00 | 0.30 | 0.00 |
| | Water 1000mL-3000mL | - | - | - | - |
| | Water >3000mL | - | - | - | - |
| | Wine-based/wine cooler <150 ml | - | - | - | - |
| | Wine-based/wine cooler 150-499mL | - | - | - | - |
| | Wine-based/wine cooler 500-999mL | 1 | 0.00 | 0.30 | 0.00 |
| | Wine-based/wine cooler 1000mL-3000mL | - | - | - | - |
| | Wine-based/wine cooler >3000mL | - | - | - | - |
| **CARD** | Flav. milk (Cartons) <150 ml | 1 | 0.00 | 0.06 | 0.00 |
| | Flav. milk (Cartons) 150-499mL | 4 | 0.04 | 1.50 | 0.01 |
| | Flav. milk (Cartons) 500-999mL | 1 | 0.00 | 0.30 | 0.00 |
| | Flav. milk (Cartons) 1000mL-3000mL | 1 | 0.00 | 0.75 | 0.01 |
| | Flav. milk (Cartons) >3000mL | - | - | - | - |
| | Fruit Juice <150 ml | - | - | - | - |
| | Fruit Juice 150-499mL | 1 | 0.01 | 0.38 | 0.00 |
| | Fruit Juice 500-999mL | - | - | - | - |
| | Fruit Juice 1000mL-3000mL | - | - | - | - |
| | Fruit Juice >3000mL | - | - | - | - |
| | FW/FW/FJD/SpD/EnD <150 ml | - | - | - | - |
| | FW/FW/FJD/SpD/EnD 150-499mL | 1 | 0.00 | 0.19 | 0.00 |
| | FW/FW/FJD/SpD/EnD 500-999mL | - | - | - | - |
| | FW/FW/FJD/SpD/EnD 1000mL-3000mL | - | - | - | - |
| | FW/FW/FJD/SpD/EnD >3000mL | - | - | - | - |
| | Milk, plain (white) <150 ml | - | - | - | - |
| | Milk, plain (white) 150-499mL | - | - | - | - |
| | Milk, plain (white) 500-999mL | - | - | - | - |
| | Milk, plain (white) 1000mL-3000mL | 1 | 0.00 | 0.75 | 0.01 |
| | Milk, plain (white) >3000mL | - | - | - | - |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| ANY | Other beverage <150 ml | - | - | - | - |
| | Other beverage 150-499mL | 1 | 0.00 | 0.19 | 0.00 |
| | Other beverage 500-999mL | 1 | 0.01 | 0.60 | 0.01 |
| | Other beverage 1000mL-3000mL | - | - | - | - |
| | Other beverage >3000mL | - | - | - | - |
| **FRAGMENTS** | | | | | |
| PLASTIC | Hard plastic Size 1 – Small ( > 2.5 cm to 8 cm) | 1,715 | 16.35 | 13.72 | 0.13 |
| | Hard plastic Size 2 – Medium ( > 8 cm to 16 cm) | 397 | 3.79 | 6.35 | 0.06 |
| | Hard plastic Size 3 – Large ( > 16 cm) | 88 | 0.83 | 2.80 | 0.03 |
| | Soft plastic Size 1 – Small ( > 2.5 cm to 8 cm) | 988 | 9.42 | 7.90 | 0.08 |
| | Soft plastic Size 2 – Medium ( > 8 cm to 16 cm) | 206 | 1.96 | 3.29 | 0.03 |
| | Soft plastic Size 3 – Large ( > 16 cm) | 72 | 0.69 | 2.30 | 0.02 |
| METAL | Metal Size 1 – Small ( > 2.5 cm to 8 cm) | 232 | 2.21 | 5.56 | 0.05 |
| | Metal Size 2 – Medium ( > 8 cm to 16 cm) | 63 | 0.60 | 3.02 | 0.03 |
| | Metal Size 3 – Large ( > 16 cm) | 15 | 0.14 | 1.44 | 0.01 |
| GLASS | Glass Size 1 – Small ( > 2.5 cm to 8 cm) | 528 | 5.03 | 4.22 | 0.04 |
| | Glass Size 2 – Medium ( > 8 cm to 16 cm) | 43 | 0.41 | 0.69 | 0.01 |
| | Glass Size 3 – Large ( > 16 cm) | 5 | 0.05 | 0.16 | 0.00 |
| CARD | Paper and Card Size 1 – Small ( > 2.5 cm to 8 cm) | 1,620 | 15.44 | 12.96 | 0.12 |
| | Paper and Card Size 2 – Medium ( > 8 cm to 16 cm) | 295 | 2.81 | 4.72 | 0.05 |
| | Paper and Card Size 3 – Large ( > 16 cm) | 74 | 0.71 | 2.37 | 0.02 |
| RUBBER | Rubber Size 1 – Small ( > 2.5 cm to 8 cm) | 222 | 2.11 | 1.77 | 0.02 |
| | Rubber Size 2 – Medium ( > 8 cm to 16 cm) | 49 | 0.47 | 0.78 | 0.01 |
| | Rubber Size 3 – Large ( > 16 cm) | 14 | 0.13 | 0.43 | 0.00 |

| | | 2022/23 TOTAL | | | |
|---|---|---|---|---|---|
| | | Number of Items (#) | Items (#) /1000m2 | Volume (l) | Volume (l)/1000m2 |
| POLY | Polystyrene Size 1 – Small ( > 2.5 cm to 8 cm) | 293 | 2.79 | 7.03 | 0.07 |
| | Polystyrene Size 2 – Medium ( > 8 cm to 16 cm) | 54 | 0.51 | 2.59 | 0.02 |
| | Polystyrene Size 3 – Large ( > 16 cm) | 17 | 0.16 | 1.58 | 0.02 |
| CLOTH | Cloth Size 1 – Small ( > 2.5 cm to 8 cm) | 98 | 0.93 | 0.78 | 0.01 |
| | Cloth Size 2 – Medium ( > 8 cm to 16 cm) | 26 | 0.25 | 0.42 | 0.00 |
| | Cloth Size 3 – Large ( > 16 cm) | 8 | 0.08 | 0.26 | 0.00 |
| **TOTAL** | | **17,195** | **163.95** | **1,129.24** | **10.77** |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| PLASTIC | Cigarette butts and filters | 2 | 0.002 |
| | Bag - Dog Poo | 200 | 0.2 |
| | Bag - Fruit/Veg | 200 | 0.2 |
| | Bag - Green Reusable | 1000 | 1 |
| | Bag - Heavy Boutique | 1000 | 1 |
| | Bag - Heavy Supermrkt | 1000 | 1 |
| | Bag – Ice | 500 | 0.5 |
| | Bag -Lightweight shop | 200 | 0.2 |
| | Bag - Mesh Bags | 100 | 0.1 |
| | Bag - Other | 200 | 0.2 |
| | Bread Bag Tags/twist ties | 1 | 0.001 |
| | Cable ties | 5 | 0.005 |
| | Cigarette Lighters | 10 | 0.01 |
| | Cigarette packet cellophane wrap | 1.1 | 0.0011 |
| | Cotton buds/tips | 1 | 0.001 |
| | Cup – Single use | 200 | 0.2 |
| | Cup – Reusable | 200 | 0.2 |
| | Cutlery/chopsticks | 10 | 0.01 |
| | Fishing related | 50 | 0.05 |
| | Food/confect. Wrappers | 50 | 0.05 |
| | Lids - Beverage container lids /caps | 20 | 0.02 |
| | Lids - Plastic cup lid | 20 | 0.02 |
| | Lids -Coffee cup lid | 20 | 0.02 |
| | Lids - Other | 20 | 0.02 |
| | Lollipop Sticks | 1 | 0.001 |
| | Non-Food Bottle | 500 | 0.5 |
| | Non-Food package | 500 | 0.5 |
| | Other Food Package | 500 | 0.5 |
| | Plate/bowl – single use | 200 | 0.2 |
| | Plate/bowl – reusable | 200 | 0.2 |
| | Plastic wrap non-food | 200 | 0.2 |
| | Six pack rings | 200 | 0.2 |
| | Strapping band | 200 | 0.2 |
| | Stirrers | 1 | 0.001 |
| | Straws | 5 | 0.005 |
| | Syringe | 10 | 0.01 |
| | Takeaway food container | 500 | 0.5 |
| | Tape/narrow soft plastic film | 50 | 0.05 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| PLASTIC | Tobacco pouch | 100 | 0.1 |
| | Toys | 100 | 0.1 |
| | Whipper snipper cord | 5 | 0.005 |
| | **Other plastic item** | 100 | 0.1 |
| METAL | Aerosol cans | 300 | 0.3 |
| | Aluminium foil wrap | 100 | 0.1 |
| | Foil takeaway container | 500 | 0.5 |
| | Lids, bottle tops, can ring pulls | 2 | 0.002 |
| | **Other metal item** | 100 | 0.1 |
| GLASS | Glass jars | 375 | 0.375 |
| | **Other glass item** | 200 | 0.2 |
| PAPER & CARD | Cigarette packets | 100 | 0.1 |
| | Cup - Coffee cup | 200 | 0.2 |
| | Cup - Other paper cup | 200 | 0.2 |
| | Ice cream wrappers | 20 | 0.02 |
| | Junk mail / free circulars | 500 | 0.5 |
| | Newspaper/Magazine | 500 | 0.5 |
| | Packages & boxes | 500 | 0.5 |
| | Paper bags | 300 | 0.3 |
| | Paper/card food packaging | 500 | 0.5 |
| | Paper tissues/napkin | 50 | 0.05 |
| | Shopper dockets, tickets/receipts | 50 | 0.05 |
| | **Other paper & card.** | 50 | 0.05 |
| RUBBER | Rubber band/hair tie | 5 | 0.005 |
| | Rubber toy | 50 | 0.05 |
| | Tyre pieces | 5 | 0.005 |
| | Tyres | 20000 | 20 |
| | **Other rubber item** | 100 | 0.1 |
| POLY | Cups (foam) | 200 | 0.2 |
| | Food pack./clam shells | 500 | 0.5 |
| | Insulation & Packaging | 1000 | 1 |
| | **Other polystyrene item** | 500 | 0.5 |
| CLOTH | Clothing | 1000 | 1 |
| | **Other cloth item** | 200 | 0.2 |
| OTHER | Balloons | 50 | 0.05 |
| | Batteries | 10 | 0.01 |
| | Condom | 5 | 0.005 |
| | Construction materials | 360 | 0.36 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| OTHER MATERIALS | Cotton buds/tips (non- plastic) | 1 | 0.001 |
| | Cutlery (non-plastic) | 10 | 0.01 |
| | Dog poo | 50 | 0.05 |
| | Electrical wire | 10 | 0.01 |
| | Face mask – disposable | 100 | 0.1 |
| | Face mask – reusable | 100 | 0.1 |
| | Fruit/vegetable/food | 200 | 0.2 |
| | Gum | | 0 |
| | Ice Cream Stick | 0.9 | 0.0009 |
| | Nappy | 500 | 0.5 |
| | Personal Effects | 200 | 0.2 |
| | Plate/bowl (non-plastic) | 200 | 0.2 |
| | Rope/string | 200 | 0.2 |
| | Sanitary Items | 200 | 0.2 |
| | Stirrers (non-plastic) | 2 | 0.002 |
| | Straw (non-plastic) | 5 | 0.005 |
| | Vape packaging | 50 | 0.05 |
| | Vape pen | 50 | 0.05 |
| | Vehicle parts | 50 | 0.05 |
| | Wet wipes | 50 | 0.05 |
| | Wooden items | 100 | 0.1 |
| | **Unknown item** | 100 | 0.1 |
| | **BEVERAGE CONTAINERS** | | 0 |
| PLASTIC | Drink pouches <150 ml | 120 | 0.12 |
| | Drink pouches 150-499mL | 375 | 0.375 |
| | Drink pouches 500-999mL | 600 | 0.6 |
| | Drink pouches 1000mL-3000mL | 1500 | 1.5 |
| | Drink pouches >3000mL | 3500 | 3.5 |
| | Flav. Milk <150 ml | 120 | 0.12 |
| | Flav. Milk 150-499mL | 375 | 0.375 |
| | Flav. Milk 500-999mL | 600 | 0.6 |
| | Flav. Milk 1000mL-3000mL | 1500 | 1.5 |
| | Flav. Milk >3000mL | 3500 | 3.5 |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | 120 | 0.12 |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 375 | 0.375 |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | 600 | 0.6 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| PLASTIC | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | 1500 | 1.5 |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | 3500 | 3.5 |
| | Fruit/vegetable juice <150 ml | 120 | 0.12 |
| | Fruit/vegetable juice 150-499mL | 375 | 0.375 |
| | Fruit/vegetable juice 500-999mL | 600 | 0.6 |
| | Fruit/vegetable juice 1000mL-3000mL | 1500 | 1.5 |
| | Fruit/vegetable juice >3000mL | 3500 | 3.5 |
| | Water <150 ml | 120 | 0.12 |
| | Water 150-499mL | 375 | 0.375 |
| | Water 500-999mL | 600 | 0.6 |
| | Water 1000mL-3000mL | 1500 | 1.5 |
| | Water >3000mL | 3500 | 3.5 |
| | White milk <150 ml | 120 | 0.12 |
| | White milk 150-499mL | 500 | 0.5 |
| | White milk 500-999mL | 1000 | 1 |
| | White milk 1000mL-3000mL | 2000 | 2 |
| | White milk >3000mL | 3500 | 3.5 |
| METAL | Beer <150 ml | 120 | 0.12 |
| | Beer 150-499mL | 375 | 0.375 |
| | Beer 500-999mL | 600 | 0.6 |
| | Beer 1000mL-3000mL | 1500 | 1.5 |
| | Beer >3000mL | 3500 | 3.5 |
| | Cider/fruit based <150 ml | 120 | 0.12 |
| | Cider/fruit based 150-499mL | 375 | 0.375 |
| | Cider/fruit based 500-999mL | 600 | 0.6 |
| | Cider/fruit based 1000mL-3000mL | 1500 | 1.5 |
| | Cider/fruit based >3000mL | 3500 | 3.5 |
| | Premixed spirit drinks <150 ml | 120 | 0.12 |
| | Premixed spirit drinks 150-499mL | 375 | 0.375 |
| | Premixed spirit drinks 500-999mL | 600 | 0.6 |
| | Premixed spirit drinks 1000mL-3000mL | 1500 | 1.5 |
| | Premixed spirit drinks >3000mL | 3500 | 3.5 |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | 120 | 0.12 |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 375 | 0.375 |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | 600 | 0.6 |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | 1500 | 1.5 |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | 3500 | 3.5 |
| | Wine Bladders <150 ml | 120 | 0.12 |
| | Wine Bladders 150-499mL | 375 | 0.375 |
| | Wine Bladders 500-999mL | 600 | 0.6 |
| | Wine Bladders 1000mL-3000mL | 1500 | 1.5 |
| | Wine Bladders >3000mL | 3500 | 3.5 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| GLASS | Wine <150 ml | 120 | 0.12 |
| | Wine 150-499mL | 375 | 0.375 |
| | Wine 500-999mL | 750 | 0.75 |
| | Wine 1000mL-3000mL | 1500 | 1.5 |
| | Wine >3000mL | 3000 | 3 |
| | Spirit <150 ml | 120 | 0.12 |
| | Spirit 150-499mL | 375 | 0.375 |
| | Spirit 500-999mL | 700 | 0.7 |
| | Spirit 1000mL-3000mL | 1500 | 1.5 |
| | Spirit >3000mL | 3500 | 3.5 |
| | Premixed spirit drinks <150 ml | 120 | 0.12 |
| | Premixed spirit drinks 150-499mL | 375 | 0.375 |
| | Premixed spirit drinks 500-999mL | 600 | 0.6 |
| | Premixed spirit drinks 1000mL-3000mL | 1500 | 1.5 |
| | Premixed spirit drinks >3000mL | 3500 | 3.5 |
| | Beer <150 ml | 120 | 0.12 |
| | Beer 150-499mL | 375 | 0.375 |
| | Beer 500-999mL | 600 | 0.6 |
| | Beer 1000mL-3000mL | 1500 | 1.5 |
| | Beer >3000mL | 3500 | 3.5 |
| | Cider <150 ml | 120 | 0.12 |
| | Cider 150-499mL | 375 | 0.375 |
| | Cider 500-999mL | 600 | 0.6 |
| | Cider 1000mL-3000mL | 1500 | 1.5 |
| | Cider >3000mL | 3500 | 3.5 |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | 120 | 0.12 |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | 375 | 0.375 |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | 600 | 0.6 |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | 1500 | 1.5 |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | 3500 | 3.5 |
| | Fruit juice <150 ml | 120 | 0.12 |
| | Fruit juice 150-499mL | 375 | 0.375 |
| | Fruit juice 500-999mL | 600 | 0.6 |
| | Fruit juice 1000mL-3000mL | 1500 | 1.5 |
| | Fruit juice >3000mL | 3500 | 3.5 |
| | Water <150 ml | 120 | 0.12 |
| | Water 150-499mL | 375 | 0.375 |
| | Water 500-999mL | 600 | 0.6 |
| | Water 1000mL-3000mL | 1500 | 1.5 |
| | Water >3000mL | 3500 | 3.5 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| GLASS | Wine-based/wine cooler <150 ml | 120 | 0.12 |
| | Wine-based/wine cooler 150-499mL | 375 | 0.375 |
| | Wine-based/wine cooler 500-999mL | 600 | 0.6 |
| | Wine-based/wine cooler 1000mL-3000mL | 1500 | 1.5 |
| | Wine-based/wine cooler >3000mL | 3500 | 3.5 |
| CARD | Flav. milk (Cartons) <150 ml | 120 | 0.12 |
| | Flav. milk (Cartons) 150-499mL | 375 | 0.375 |
| | Flav. milk (Cartons) 500-999mL | 600 | 0.6 |
| | Flav. milk (Cartons) 1000mL-3000mL | 1500 | 1.5 |
| | Flav. milk (Cartons) >3000mL | 3500 | 3.5 |
| | Fruit Juice <150 ml | 120 | 0.12 |
| | Fruit Juice 150-499mL | 375 | 0.375 |
| | Fruit Juice 500-999mL | 600 | 0.6 |
| | Fruit Juice 1000mL-3000mL | 1500 | 1.5 |
| | Fruit Juice >3000mL | 3500 | 3.5 |
| | FW/FW/FJD/SpD/EnD <150 ml | 120 | 0.12 |
| | FW/FW/FJD/SpD/EnD 150-499mL | 375 | 0.375 |
| | FW/FW/FJD/SpD/EnD 500-999mL | 600 | 0.6 |
| | FW/FW/FJD/SpD/EnD 1000mL-3000mL | 1500 | 1.5 |
| | FW/FW/FJD/SpD/EnD >3000mL | 3500 | 3.5 |
| | Milk, plain (white) <150 ml | 120 | 0.12 |
| | Milk, plain (white) 150-499mL | 375 | 0.375 |
| | Milk, plain (white) 500-999mL | 600 | 0.6 |
| | Milk, plain (white) 1000mL-3000mL | 1500 | 1.5 |
| | Milk, plain (white) >3000mL | 3500 | 3.5 |
| ANY | Other beverage <150 ml | 120 | 0.12 |
| | Other beverage 150-499mL | 375 | 0.375 |
| | Other beverage 500-999mL | 600 | 0.6 |
| | Other beverage 1000mL-3000mL | 1500 | 1.5 |
| | Other beverage >3000mL | 3500 | 3.5 |

| | Item | Estimated volume (ml) | Estimated volume (l) |
|---|---|---|---|
| | **FRAGMENTS** | | 0 |
| **PLASTIC** | Hard plastic<br>Size 1 - Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Hard plastic<br>Size 2 - Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Hard plastic<br>Size 3 -- Large ( > 16 cm) | 32 | 0.032 |
| | Soft plastic<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Soft plastic<br>Size 2 – Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Soft plastic<br>Size 3 – Large ( > 16 cm) | 32 | 0.032 |
| **METAL** | Metal<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 24 | 0.024 |
| | Metal<br>Size 2 – Medium ( > 8 cm to 16 cm) | 48 | 0.048 |
| | Metal<br>Size 3 – Large ( > 16 cm) | 96 | 0.096 |
| **GLASS** | Glass<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Glass<br>Size 2 – Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Glass<br>Size 3 – Large ( > 16 cm) | 32 | 0.032 |
| **CARD** | Paper and Card<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Paper and Card<br>Size 2 – Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Paper and Card<br>Size 3 – Large ( > 16 cm) | 32 | 0.032 |
| **RUBBER** | Rubber<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Rubber<br>Size 2 – Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Rubber<br>Size 3 – Large ( > 16 cm) | 32 | 0.032 |
| **POLY** | Polystyrene<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 24 | 0.024 |
| | Polystyrene<br>Size 2 – Medium ( > 8 cm to 16 cm) | 48 | 0.048 |
| | Polystyrene<br>Size 3 – Large ( > 16 cm) | 96 | 0.096 |
| **CLOTH** | Cloth<br>Size 1 – Small ( > 2.5 cm to 8 cm) | 8 | 0.008 |
| | Cloth<br>Size 2 – Medium ( > 8 cm to 16 cm) | 16 | 0.016 |
| | Cloth<br>Size 3 – Large ( > 16 cm) | 32 | 0.032 |

# Category Classifications: Single Use Plastics and Takeaway Food Packaging

| | | SINGLE USE PLASTIC | TAKEAWAY FOOD PACKAGING |
|---|---|---|---|
| **PLASTIC** | Cigarette butts and filters | | |
| | Bag - Dog Poo | | |
| | Bag - Fruit/Veg | | |
| | Bag - Green Reusable | | |
| | Bag - Heavy Boutique | Y | |
| | Bag - Heavy Supermrkt | Y | |
| | Bag – Ice | | |
| | Bag -Lightweight shop | Y | |
| | Bag - Mesh Bags | Y | |
| | Bag - Other | Y | |
| | Bread Bag Tags/twist ties | | |
| | Cable ties | | |
| | Cigarette Lighters | | |
| | Cigarette packet cellophane wrap | | |
| | Cotton buds/tips | Y | |
| | Cup – Single use | Y | Y |
| | Cup – Reusable | | |
| | Cutlery/chopsticks | Y | Y |
| | Fishing related | | |
| | Food/confect. Wrappers | | Y |
| | Lids - Beverage container lids /caps | | Y |
| | Lids - Plastic cup lid | Y | Y |
| | Lids -Coffee cup lid | Y | Y |
| | Lids - Other | Y | Y |
| | Lollipop Sticks | Y | Y |
| | Non-Food Bottle | | |
| | Non-Food package | | |
| | Other Food Package | Y | |
| | Plate/bowl – single use | Y | Y |
| | Plate/bowl – reusable | | |
| | Plastic wrap non-food | | |
| | Six pack rings | | Y |
| | Strapping band | | |
| | Stirrers | Y | Y |
| | Straws | Y | Y |
| | Syringe | | |
| | Takeaway food container | Y | Y |
| | Tape/narrow soft plastic film | | |

| | | SINGLE USE PLASTIC | TAKEAWAY FOOD PACKAGING |
|---|---|---|---|
| **PLASTIC** | Tobacco pouch | | |
| | Toys | | |
| | Whipper snipper cord | | |
| | **Other plastic item** | | |
| **METAL** | Aerosol cans | | |
| | Aluminium foil wrap | | |
| | Foil takeaway container | | Y |
| | Lids, bottle tops, can ring pulls | | Y |
| | **Other metal item** | | |
| **GLASS** | Glass jars | | |
| | **Other glass item** | | |
| **PAPER & CARD** | Cigarette packets | | |
| | Cup - Coffee cup | Y | Y |
| | Cup - Other paper cup | | Y |
| | Ice cream wrappers | | Y |
| | Junk mail / free circulars | | |
| | Newspaper/Magazine | | |
| | Packages & boxes | | |
| | Paper bags | | |
| | Paper/card food packaging | | Y |
| | Paper tissues/napkin | | |
| | Shopper dockets, tickets/receipts | | |
| | **Other paper & card.** | | |
| **RUBBER** | Rubber band/hair tie | | |
| | Rubber toy | | |
| | Tyre pieces | | |
| | Tyres | | |
| | **Other rubber item** | | |
| **POLY** | Cups (foam) | | Y |
| | Food pack./clam shells | Y | Y |
| | Insulation & Packaging | | |
| | **Other polystyrene item** | | |
| **CLOTH** | Clothing | | |
| | **Other cloth item** | | |

| | | SINGLE USE PLASTIC | TAKEAWAY FOOD PACKAGING |
|---|---|---|---|
| **OTHER** | Balloons | | |
| | Batteries | | |
| | Condom | | |
| | Construction materials | | |
| **OTHER MATERIALS** | Cotton buds/tips (non- plastic) | | |
| | Cutlery (non-plastic) | | |
| | Dog poo | | |
| | Electrical wire | | |
| | Face mask – disposable | | |
| | Face mask – reusable | | |
| | Fruit/vegetable/food | | |
| | Gum | | |
| | Ice Cream Stick | | Y |
| | Nappy | | |
| | Personal Effects | | |
| | Plate/bowl (non-plastic) | | |
| | Rope/string | | |
| | Sanitary Items | | |
| | Stirrers (non-plastic) | | |
| | Straw (non-plastic) | | |
| | Vape packaging | | |
| | Vape pen | | |
| | Vehicle parts | | |
| | Wet wipes | | |
| | Wooden items | | |
| | **Unknown item** | | |

# Category Classifications: Beverage Containers - Container Deposit Scheme (CDS) and Non-CDS.

| | CONTAINER TYPE | CATEGORY |
|---|---|---|
| PLASTIC | Drink pouches <150 ml | NON-CDS |
| | Drink pouches 150-499mL | NON-CDS |
| | Drink pouches 500-999mL | NON-CDS |
| | Drink pouches 1000mL-3000mL | NON-CDS |
| | Drink pouches >3000mL | NON-CDS |
| | Flav. Milk <150 ml | NON-CDS |
| | Flav. Milk 150-499mL | CDS |
| | Flav. Milk 500-999mL | CDS |
| | Flav. Milk 1000mL-3000mL | NON-CDS |
| | Flav. Milk >3000mL | NON-CDS |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | NON-CDS |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | NON-CDS |
| | Fruit/vegetable juice <150 ml | NON-CDS |
| | Fruit/vegetable juice 150-499mL | CDS |
| | Fruit/vegetable juice 500-999mL | CDS |
| | Fruit/vegetable juice 1000mL-3000mL | NON-CDS |
| | Fruit/vegetable juice >3000mL | NON-CDS |
| | Water <150 ml | NON-CDS |
| | Water 150-499mL | CDS |
| | Water 500-999mL | CDS |
| | Water 1000mL-3000mL | CDS |
| | Water >3000mL | NON-CDS |
| | White milk <150 ml | NON-CDS |
| | White milk 150-499mL | NON-CDS |
| | White milk 500-999mL | NON-CDS |
| | White milk 1000mL-3000mL | NON-CDS |
| | White milk >3000mL | NON-CDS |
| METAL | Beer <150 ml | NON-CDS |
| | Beer 150-499mL | CDS |
| | Beer 500-999mL | CDS |

| | CONTAINER TYPE | CATEGORY |
|---|---|---|
| METAL | Beer 1000mL-3000mL | CDS |
| | Beer >3000mL | CDS |
| | Cider/fruit based <150 ml | NON-CDS |
| | Cider/fruit based 150-499mL | CDS |
| | Cider/fruit based 500-999mL | CDS |
| | Cider/fruit based 1000mL-3000mL | CDS |
| | Cider/fruit based >3000mL | CDS |
| | Premixed spirit drinks <150 ml | NON-CDS |
| | Premixed spirit drinks 150-499mL | CDS |
| | Premixed spirit drinks 500-999mL | CDS |
| | Premixed spirit drinks 1000mL-3000mL | CDS |
| | Premixed spirit drinks >3000mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | NON-CDS |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | CDS |
| | Wine Bladders <150 ml | NON-CDS |
| | Wine Bladders 150-499mL | NON-CDS |
| | Wine Bladders 500-999mL | NON-CDS |
| | Wine Bladders 1000mL-3000mL | NON-CDS |
| | Wine Bladders >3000mL | NON-CDS |
| GLASS | Wine <150 ml | NON-CDS |
| | Wine 150-499mL | NON-CDS |
| | Wine 500-999mL | NON-CDS |
| | Wine 1000mL-3000mL | NON-CDS |
| | Wine >3000mL | NON-CDS |
| | Spirit <150 ml | NON-CDS |
| | Spirit 150-499mL | NON-CDS |
| | Spirit 500-999mL | NON-CDS |
| | Spirit 1000mL-3000mL | NON-CDS |
| | Spirit >3000mL | NON-CDS |
| | Premixed spirit drinks <150 ml | NON-CDS |
| | Premixed spirit drinks 150-499mL | CDS |

| | CONTAINER TYPE | CATEGORY |
|---|---|---|
| GLASS | Premixed spirit drinks 500-999mL | CDS |
| | Premixed spirit drinks 1000mL-3000mL | CDS |
| | Premixed spirit drinks >3000mL | CDS |
| | Beer <150 ml | NON-CDS |
| | Beer 150-499mL | CDS |
| | Beer 500-999mL | CDS |
| | Beer 1000mL-3000mL | CDS |
| | Beer >3000mL | CDS |
| | Cider <150 ml | NON-CDS |
| | Cider 150-499mL | CDS |
| | Cider 500-999mL | CDS |
| | Cider 1000mL-3000mL | CDS |
| | Cider >3000mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD <150 ml | NON-CDS |
| | Soft Dr/FW/FJD/SpD/EnD 150-499mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 500-999mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD 1000mL-3000mL | CDS |
| | Soft Dr/FW/FJD/SpD/EnD >3000mL | CDS |
| | Fruit juice <150 ml | NON-CDS |
| | Fruit juice 150-499mL | CDS |
| | Fruit juice 500-999mL | CDS |
| | Fruit juice 1000mL-3000mL | CDS |
| | Fruit juice >3000mL | NON-CDS |
| | Water <150 ml | NON-CDS |
| | Water 150-499mL | CDS |
| | Water 500-999mL | CDS |
| | Water 1000mL-3000mL | CDS |
| | Water >3000mL | CDS |
| | Wine-based/wine cooler <150 ml | NON-CDS |
| | Wine-based/wine cooler 150-499mL | CDS |
| | Wine-based/wine cooler 500-999mL | CDS |
| | Wine-based/wine cooler 1000mL-3000mL | CDS |
| | Wine-based/wine cooler >3000mL | CDS |

| | CONTAINER TYPE | CATEGORY |
|---|---|---|
| CARD | Flav. milk (Cartons) <150 ml | NON-CDS |
| | Flav. milk (Cartons) 150-499mL | CDS |
| | Flav. milk (Cartons) 500-999mL | CDS |
| | Flav. milk (Cartons) 1000mL-3000mL | NON-CDS |
| | Flav. milk (Cartons) >3000mL | NON-CDS |
| | Fruit Juice <150 ml | NON-CDS |
| | Fruit Juice 150-499mL | CDS |
| | Fruit Juice 500-999mL | CDS |
| | Fruit Juice 1000mL-3000mL | NON-CDS |
| | Fruit Juice >3000mL | NON-CDS |
| | FW/FW/FJD/SpD/EnD <150 ml | NON-CDS |
| | FW/FW/FJD/SpD/EnD 150-499mL | CDS |
| | FW/FW/FJD/SpD/EnD 500-999mL | CDS |
| | FW/FW/FJD/SpD/EnD 1000mL-3000mL | CDS |
| | FW/FW/FJD/SpD/EnD >3000mL | NON-CDS |
| | Milk, plain (white) <150 ml | NON-CDS |
| | Milk, plain (white) 150-499mL | NON-CDS |
| | Milk, plain (white) 500-999mL | NON-CDS |
| | Milk, plain (white) 1000mL-3000mL | NON-CDS |
| | Milk, plain (white) >3000mL | NON-CDS |
| ANY | Other beverage <150 ml | NON-CDS |
| | Other beverage 150-499mL | NON-CDS |
| | Other beverage 500-999mL | NON-CDS |
| | Other beverage 1000mL-3000mL | NON-CDS |
| | Other beverage >3000mL | NON-CDS |