

NATIONAL LITTER INDEX 2018 - 2019

WESTERN AUSTRALIA RESULTS

KEEP AUSTRALIA BEAUTIFUL NATIONAL ASSOCIATION
July 2019

www.kab.org.au

Contents

Introduction		3
Methodology		3
Summary		7
Litter Monitor	Results	7
Litter Monitor	Tables	16

Introduction

The 2018/19 survey reports the results of biannual litter counts at the same, undisclosed 151 sites across Western Australia. While over time additional rural highway sites have been added, the heart of the survey remains and the NLI is Australia's only long term, consistent survey of litter. Also unchanged is its aim to build a deeper understanding of what is being littered, and where, and how that is changing over time.

The National Litter count was initiated in November 2005, with a second count conducted in May 2006. The National KAB reporting commenced in 2006/07, the 2019/19 National litter counts were conducted during November 2018 and May 2019.

Purpose

The purpose of the National Litter Index is to provide insight regarding:

- The presence of litter items at sites within broadly comparable regions.
- Estimated volumes of litter objects within the litter stream, based upon a volume-per-item model.
- The contribution of objects recognised within established litter categories to the overall litter stream.

It is expected that the information derived from this research will be used by governments and community organisations to develop policies/ programs that will reduce litter and create increased pride in communities.

Limitations

The National Litter Index is not a study of littering behaviour. It is exclusively intended as an assessment of the presence of litter objects within surveyed regions. As such, no corrections for population densities are carried out. The information derived from the Index provides no indication of whether residents of a particular region litter more or less frequently than those in a different region. It does, however, provide insight regarding (a) the relative presence or absence of litter objects and particular material types within the regions surveyed, and (b) result trends over time. As such, findings are considered to be broadly but tentatively standardised to regions of a similar type.

Methodology

Scope

Sites surveyed within the research program were sampled primarily from urban and near-urban areas (i.e. generally within 50km of the urban areas surrounding each state capital). Generalisation of findings to regional locations must therefore be made with caution.

The total area surveyed across all NLI sites in Western Australia was 235,966m². This area spanned a total of 151 sites.

<u>Sites</u>

All sites incorporated within the survey were categorised according to 8 different site types. Uniform guidelines were conformed to during site selection. Site specifications vary from 500 square metres (beaches) to 3,000 square metres (highways).

Residential

A street area approximately 150 metres in length, along both sides of the road from the front of the properties on each side of that road extending to the gutter including litter in the gutter.

Beach

An area of approximately 50 metres long and 10 metres wide, positioned on one or across both sides of a jetty, boat ramp or main entry access point to beach.

Industrial

A street area approximately 150 metres long within an industrial area, the count area to be from the fence line or immediate front of the properties to the gutter including litter in the gutter

Car Park

An area of approximately 30 by 50 metres in an open space public car park at a point distant from the entrance to the car park.

Shopping Centre

An area approximately 50 metres long and 25 metres wide, directly outside of the main shopping centre building and including one or across both sides of a major entrance.

Retail Strip/ Shops - Street Precinct

An area approximately 150 metres long in front of a strip of shops, extending from the front of the shops to the street gutter and including litter in the gutter.

Recreational Park

An area of approximately 40 by 50 metres in a park area which includes a playground but which is not in the immediate vicinity of a shop or kiosk. The areas should be within a frequently used park.

<u>Highway</u>

Highways include open major roadways bounded by a vegetated area that may include an open drain.

The count area commences from the area beginning at the edge of the road, and extending out from the road to the nearest fence/ boundary or up to a distance of 10 metres out from the road side if no such fence/ boundary exists. Two such areas should be collected from, one on each side of the road. Each region should extend for a length of approximately 200 metres along the road.

Site Type Representation

The following table outlines the number of sites within each of the 8 distinct site types that were sampled within Western Australia.

	All Other States
Beach	16
Car Park	23
Highway	27
Industrial	17
Recreational Park	13
Residential	26
Retail	15
Shopping Centre	14
Total	151

Litter Counter Training

The litter categorisations and assumptions used during the counts of designated sites were broadly as follows:

- A standard data collection form, was used when conducting the litter counts. A copy of this form is provided in the Appendices.
- Counters were trained to carefully analyse the litter to ensure that it was properly identified before recording it on the survey form. For example, to determine whether an item is glass and not clear plastic, or to differentiate between fruit juice and fruit drink as these are recorded on different sections of the form.
- Broken bottles were counted as one bottle, a bag of dumped garbage was considered to be
 one item of "illegal dumping", and scattered newspaper pages were counted as one
 newspaper.
- While individual cigarette butts are counted, where there are large volumes of cigarette butts an estimated count is acceptable.
- For the purpose of the Litter Count, all waste located within any count site is litter apart from that properly disposed of in a waste receptacle.
- Organic matter (including food, chewing gum, and dog faeces) was not recorded during the count.

Reporting

Litter counts have been conducted bi-annually in November and May across the years from 2005/06, unless stated otherwise, the 2018/19 results are reported on an annual basis incorporating average figures corresponding to November 2018 and May 2019 counts.

Category Consolidation

The NLI is a data rich survey and as a result is complex to interpret. To simplify we have consolidated various litter items into broader categories as represented in the following table.

Most of the groupings should be self-evident but it is worth explaining the beverage container category in more detail. In this instance included in the beverage container category are only those items currently classified as eligible containers as part of the SA, NT, NSW, QLD and ACT CDS schemes.

Consolidated Category	Historical Classification
Butts & Packaging	Cigarette Butts
Dutts & Fackaging	Paper/Paperboard - Cigarette packets
	Glass - Alcoholic sodas / spirit-based mixers, all sizes
	Glass - Beer, all colours of glass, <750ml Glass - Beer, all colours of glass, 750ml+
	Glass - Cider/fruit based etc.
	Glass - Flav. water/soft drink (carbonated) <1 litre
	Glass - Flav. water/soft drink (carbonated) 1 litre+
	Glass - Flav.wtr/fruit j. dr/sprts dr, (non-carb), <1 litre
	Glass - Flav.wtr/fruit j. dr/sprts dr, (non-carb), 1 litre+
	Glass - Fruit juice, < 1 litre Glass - Plain water (carbonated or non-carb.), <1 litre
	Glass - Plain water (carbonated or non-carb.), 1 litre+
	Glass - Wine cooler, all sizes
	Metal - Alcoholic sodas & spirit-based mixers
	Metal - Beer, aluminium, all types, all sizes
Beverage Containers	Metal - Cider/fruit based etc.
	Metal - Flav. water/soft drink, (carbonated), all sizes
	Metal - Flav. water/soft drink, (non-carb), all sizes
	Paper/Paperboard - Cartons, flavoured milk < 1 litre
	Paper/Paperboard - Cartons, fruit juice, < 1 litre
	Paper/Paperboard - Flav. water / fruit j. drink/ sports drink, (non-carb), 1 litre+ Paper/Paperboard - Flav. water/fruit j. drink/sports drink, non-carb, <1 litre
	Plastic - Drink pouches
	Plastic - Flav. milk, <1 litre
	Plastic - Flav. water/soft drink (carbonated) <1 litre
	Plastic - Flav. wtr/fruit j. dr, sprts dr etc.(non-carb) 1 litre+
	Plastic - Flav.wtr/fruit j. dr, sprts dr etc.(non-carb) <1 litre
	Plastic - Fruit juice <1 litre
	Plastic - Plain water (carbonated or non-carb) <1 litre
	Plastic - Plain water (carbonated or non-carb) 1 litre+
	Metal - Foil take away
	Metal - Metal bottle tops and can pull rings
	Miscellaneous - Ice cream sticks
	Paper/Paperboard - Coffee cups Paper/Paperboard - Cups/take away containers
	Paper/Paperboard - Ice cream wrappers
ake Away	Plastic - Lollipop sticks
	Plastic - Plastic bottle tops
	Plastic - Snack bags & confectionary wrappers
	Plastic - Spoons/ cutlery
	Plastic - Straws
	Plastic - Take away & cups
Other Glass	Glass - Other glass
Other Paper	Paper/Paperboard - Other paper
Other Plastic	Plastic - Other plastic
Plastic Bags	Plastic - Bags - heavier glossy typically branded carry bags Plastic - Bags - supermarket type light weight carry bags
	Glass - Fruit juice, 1 litre+
	Glass - Wine & spirit, all sizes
	Metal - Aerosols - pressure packs
	Metal - Food cans (including pet food)
	Metal - Industrial cans - all types
	Metal - Metal pieces
	Metal - Other foil
	Miscellaneous - Clothing & materials Miscellaneous - Condoms
	Miscellaneous - Condoms Miscellaneous - Construction materials
	Miscellaneous - Disposable nappies
	Miscellaneous - Other miscellaneous
	Miscellaneous - Other miscellaneous Miscellaneous - Rubber pieces (not tyres)
	Miscellaneous - Syringes
	Miscellaneous - Tyres & pieces
	Paper/Paperboard - Cartons, flavoured milk 1 litre+
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mall / free circulars
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit Juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mall / free circulars Paper/Paperboard - Newspapers & magazines
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists)
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc.
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists)
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit Juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Packages & boxes Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, eg, bus, ATM, vending machine etc. Plastic - 6 ring can holders
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - Bread bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - 6 ring can holders Plastic - Bread bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, fruit, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Packages & boxes Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, eg. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - Bread bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. water/Soft drink (carbonated) 1 litre+
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Paper Same magazines Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - 6 read bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+ Plastic - Flav. milk, 1 litre+ Plastic - Flav. under/Soft drink (carbonated) 1 litre+ Plastic - Flav. Litre+
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Newspapers & magazines Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - 6 ring can holders Plastic - Gread bag tags Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+ Plastic - Flav. milk, 1 litre+ Plastic - Flav. milk, 1 litre+ Plastic - Flav. lite, 1 litre+ Plastic - Packing tape & straps
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Paper same magazines Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - Bread bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+ Plastic - Flav. water/Sort drink (carbonated) 1 litre+ Plastic - Fruit juice, 1 litre+ Plastic - Fruit juice, 1 litre+ Plastic - Sacks - sheeting - other bags
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Packages & boxes Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - 6 ring can holders Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+ Plastic - Flav. milk, 1 litre+ Plastic - Packing tape & straps Plastic - Sacks - sheeting - other bags Plastic - Sacks - sheeting - other bags Plastic - Styrene foam boxes, sheets, etc
General Other	Paper/Paperboard - Cartons, flavoured milk 1 litre+ Paper/Paperboard - Cartons, fruit juice, 1 litre+ Paper/Paperboard - Cartons, milk, plain (white) all sizes Paper/Paperboard - Junk mail / free circulars Paper/Paperboard - Paper same magazines Paper/Paperboard - Paper bags Paper/Paperboard - Paper bags Paper/Paperboard - Shopper dockets & related shopping paper (eg, lists) Paper/Paperboard - Tickets, e.g. bus, ATM, vending machine etc. Plastic - 6 ring can holders Plastic - Bread bag tags Plastic - Containers, domestic type Plastic - Containers, industrial e.g. oil Plastic - Flav. milk, 1 litre+ Plastic - Flav. water/Sort drink (carbonated) 1 litre+ Plastic - Fruit juice, 1 litre+ Plastic - Fruit juice, 1 litre+ Plastic - Sacks - sheeting - other bags

Western Australian Results

Key Messages and Insights

- There was a decrease (-8.5%) in litter items counted in the 2018/19 monitor compared to 2017/18.
- A reduction in cigarette litter (-17.0%) was the main contributor to the decrease in litter counted, while there were moderate decreases associated with other paper (-7.1%), general other litter (-6.7%) and beverage containers (-6.4%).
- Lower levels of litter were counted at beaches (-58.6%), retail precincts (-46.9%), shopping centres (-9.3%), major roads highways (-8.2%) and recreational parks (-1.5%).
- Higher levels of litter were recorded higher levels counted at car parks (+27.7%), residential streets (+4.7%) and industrial precincts (+3.5%).
- There was also a decrease of litter volume (-8.9%) with the largest reductions attributed to lower levels of plastic industrial containers, plastic domestic containers and plastic soft drink bottles <1 litre.
- Industrial precincts continue to recorded the highest loads on an item counted basis whereas major roads/highways continue to have the highest estimated loads on a volumetric basis.

Survey Specifics

The national litter index surveys 151 sites across Western Australia, with an area surveyed of 235,966 square metres. While city and suburban areas are the primary focus of the survey, a number of regional/rural sites, are also surveyed. The breakdown is shown in the table below.

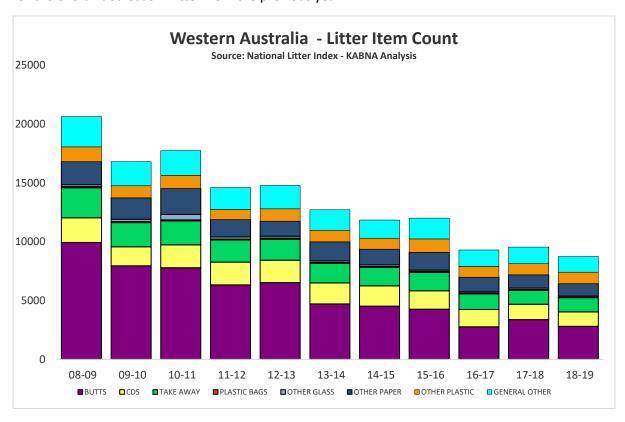
Site Types		Number Surveyed		Area Surveyed (sq m)
	Suburban	Regional	Total	
Recreational Swimming	10	6	16	8,000
Car Parks	19	4	23	34,365
Major Roads/Highways	17	10	27	87,565
Industrial Precincts	13 4		17	14,985
Recreational Parks	7	6	13	26,000
Residential Streets	21	5	26	35,870
Retail Precincts	10	5	15	13,556
Strip Shopping Precincts	Shopping Precincts 12 2		14	15,625
TOTAL	109	42	151	235,966

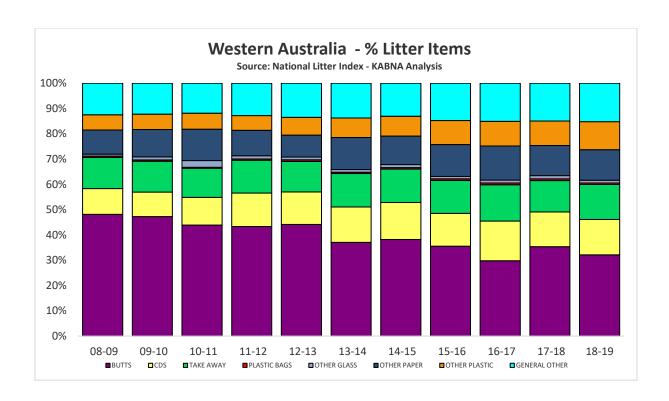
Litter Counts

As shown in the following table, the 2018/19 litter monitor recorded 8.5% less litter than counted in the 2017/18 monitor. A fall in cigarette litter (-17.0%) was the main contributor to the decrease in litter counted, while there were moderate decreases associated with other paper (-7.1%), general other litter (-6.7%) and there were also small decreases among litter numbers associated with plastic bags (-29.9%) and other glass (-18.8%). Litter increased however across plastic litter items (+4.0%) and takeaway packaging (+2.2%).

						Items				
	WA	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total
	Butts & Packaging	51	864	515	469	35	212	355	304	2803
	Beverage Containers	5	51	1043	75	4	25	19	4	1224
	Takeaway Food & Beverage	41	202	474	140	75	140	89	51	1210
	Other Glass	1	10	55	8	1	11	6	8	97
WA 2018/19	Other Paper	20	122	481	116	46	110	87	73	1053
	Other Plastic	26	106	440	151	31	124	49	41	966
	General Other	23	136	717	170	33	156	49	47	1329
	Plastic Bags	1	4	27	7	1	6	2	2	48
	Illegal Dumping			9	1		2	1		12
	GRAND TOTAL	167	1492	3759	1134	224	783	654	529	8741
	Butts & Packaging	217	694	644	441	30	148	831	372	3376
	Beverage Containers	8	35	1093	85	6	36	35	12	1308
	Takeaway Food & Beverage	60	159	447	101	67	166	132	52	1183
	Other Glass	2	11	84	9		6	6	3	120
WA	Other Paper	46	88	556	125	53	120	90	57	1134
2017/18	Other Plastic	33	87	406	155	37	121	53	40	929
	General Other	37	92	823	172	32	143	81	47	1425
	Plastic Bags	2	4	37	8	3	10	5	2	69
	Illegal Dumping		1	4	1		1	1	1	8
	GRAND TOTAL	403	1168	4093	1096	227	748	1232	583	9550
	Butts & Packaging	76.5%	-24.5%	20.1%	-6.4%	-16.7%	-43.2%	57.3%	18.3%	17.0%
	Beverage Containers	40.0%	-47.8%	4.6%	11.8%	41.7%	31.0%	46.4%	65.2%	6.4%
	Takeaway Food & Beverage	31.7%	-26.7%	-6.0%	-38.1%	-11.9%	15.7%	32.7%	2.9%	-2.2%
	Other Glass	50.0%	13.6%	35.1%	11.8%		-90.9%	8.3%	-220.0%	18.8%
%	Other Paper	56.5%	-38.9%	13.6%	7.6%	14.2%	7.9%	3.3%	-29.2%	7.1%
REDUCTION	Other Plastic	20.0%	-22.5%	-8.4%	2.9%	16.4%	-2.5%	7.5%	-3.8%	-4.0%
LDUCTION	General Other	37.0%	-48.1%	12.8%	1.5%	-3.1%	-9.1%	40.1%		6.7%
	Plastic Bags	66.7%		27.0%	13.3%	80.0%	40.0%	55.6%		29.9%
	Illegal Dumping		100.0%	-112.5%			-50.0%		100.0%	-43.8%
	Grand Total (excluding illegal dumping)	58.6%	-27.8%	8.3%	-3.5%	1.5%	-4.6%	46.9%	9.2%	8.5%
	GRAND TOTAL	58.6%	-27.7%	8.2%	-3.5%	1.5%	-4.7%	46.9%	9.3%	8.5%

Over the longer term, WA has maintained steadily declining litter levels, driven primarily by reductions in cigarette litter. In the 2018/19 litter monitor a decrease in cigarette litter was the primary reason for the overall decrease in litter from the previous year.





Volumetric Impacts

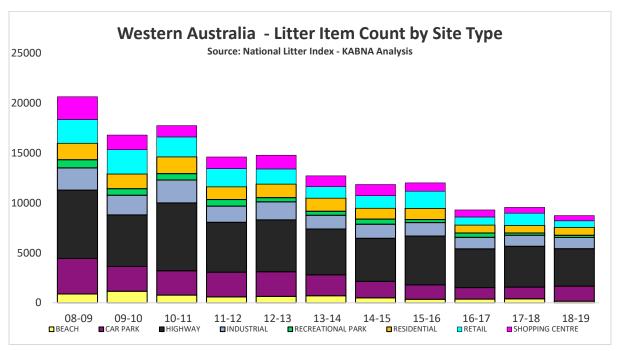
There was a decrease of litter volume of 8.9% in 2018/19. The most significant contributors to the decrease in litter volume recorded was the reduction of plastic industrial containers, plastic domestic containers and plastic soft drink bottles <1 litre.

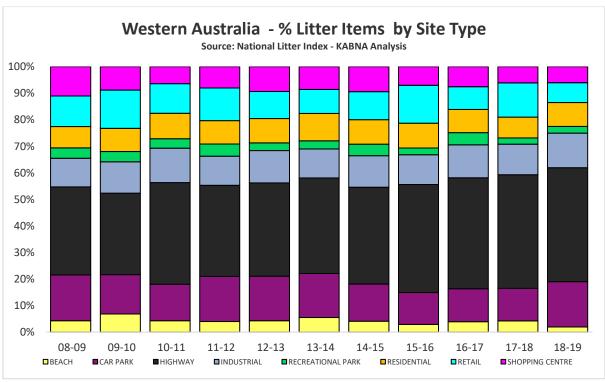
		Volume - Litres												
	WA	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total				
	Butts & Packaging	0.006	1.624	8.987	2.667	0.004	1.984	0.476	0.362	16.110				
	Beverage Containers	2.327	27.946	576.335	42.298	2.161	13.793	10.040	2.140	677.040				
	Takeaway Food & Beverage	2.563	15.818	86.205	20.594	2.432	8.847	5.356	1.476	143.291				
	Other Glass	0.020	0.187	1.070	0.147	0.010	0.206	0.108	0.157	1.905				
WA	Other Paper	0.068	0.411	1.624	0.390	0.154	0.372	0.294	0.247	3.559				
2018/19	Other Plastic	0.033	0.133	0.549	0.188	0.038	0.154	0.061	0.051	1.208				
	General Other	0.590	12.033	349.405	17.050	0.438	21.045	5.131	1.207	406.899				
	Plastic Bags	0.017	0.172	1.668	0.328	0.017	0.284	0.068	0.095	2.649				
	Illegal Dumping			204.000	24.000		36.000	12.000		276.000				
	GRAND TOTAL	5.622	58.323	1229.844	107.663	5.254	82.686	33.535	5.734	1528.660				
	Butts & Packaging	0.569	1.931	12.268	3.317	0.112	0.888	0.640	0.587	20.313				
	Beverage Containers	4.795	20.435	647.156	47.352	4.694	23.949	23.966	6.751	779.097				
	Takeaway Food & Beverage	2.552	14.356	108.552	10.034	3.661	12.651	10.472	2.300	164.579				
	Other Glass	0.039	0.216	1.650	0.167		0.108	0.118	0.049	2.347				
WA	Other Paper	0.155	0.296	1.879	0.423	0.179	0.404	0.304	0.191	3.831				
2017/18	Other Plastic	0.041	0.108	0.507	0.194	0.046	0.151	0.066	0.049	1.161				
	General Other	1.451	10.498	415.165	35.881	4.446	20.839	15.773	6.846	510.899				
	Plastic Bags	0.051	0.172	1.953	0.416	0.085	0.554	0.206	0.068	3.505				
	Illegal Dumping		24.000	96.000	24.000		24.000	12.000	12.000	192.000				
	GRAND TOTAL	9.653	72.012	1285.131	121.783	13.223	83.545	63.546	28.842	1677.733				
	Butts & Packaging	99.0%	15.9%	26.7%	19.6%	96.4%	-123.4%	25.6%	38.4%	20.7%				
	Beverage Containers	51.5%	-36.8%	10.9%	10.7%	54.0%	42.4%	58.1%	68.3%	13.1%				
	Takeaway Food & Beverage	-0.5%	-10.2%	20.6%	-105.2%	33.6%	30.1%	48.9%	35.8%	12.9%				
	Other Glass	50.0%	13.6%	35.1%	11.8%		-90.9%	8.3%	-220.0%	18.8%				
	Other Paper	56.5%	-38.9%	13.6%	7.6%	14.2%	7.9%	3.3%	-29.2%	7.1%				
% REDUCTION	Other Plastic	20.0%	-22.5%	-8.4%	2.9%	16.4%	-2.5%	7.5%	-3.8%	-4.0%				
REDUCTION	General Other	59.3%	-14.6%	15.8%	52.5%	90.2%	-1.0%	67.5%	82.4%	20.4%				
	Plastic Bags	66.7%		14.6%	21.1%	80.0%	48.7%	67.1%	-39.5%	24.4%				
	Illegal Dumping		100.0%	-112.5%			-50.0%		100.0%	-43.8%				
	Grand Total (excluding illegal dumping)	41.8%	-21.5%	13.7%	14.4%	60.3%	21.6%	58.2%	66.0%	15.7%				
	GRAND TOTAL	41.8%	19.0%	4.3%	11.6%	60.3%	1.0%	47.2%	80.1%	8.9%				

Littering Location

The breakdown of the location of the litter found in Western Australia is contained in the following charts which demonstrate that there has been reduced litter levels over time.

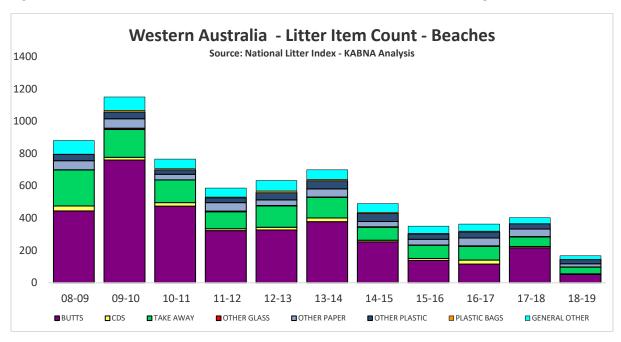
In 2018/19 monitor lower levels of litter were recorded at beaches (-58.6%), retail precincts (-46.9%), shopping centres (-9.3%), major roads highways (-8.2%) and recreational parks (-1.5%), these were offset to some degree by higher levels counted at car parks (+27.7%), residential streets (+4.7%) and industrial precincts (+3.5%).





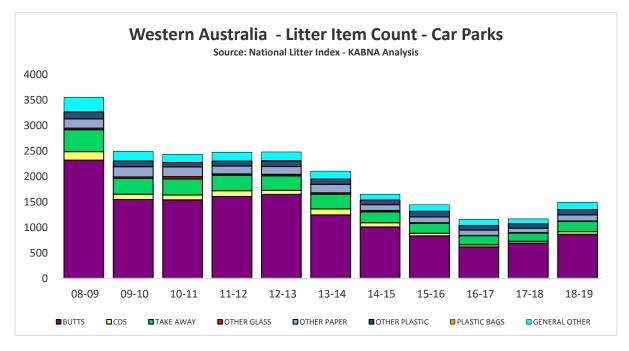
Beaches

Litter levels at beaches in WA fell by 58.6% in 2018/19 driven primarily by the impact of decreases in cigarette associated litter. Litter levels also decreased across all other litter categories at WA beaches.



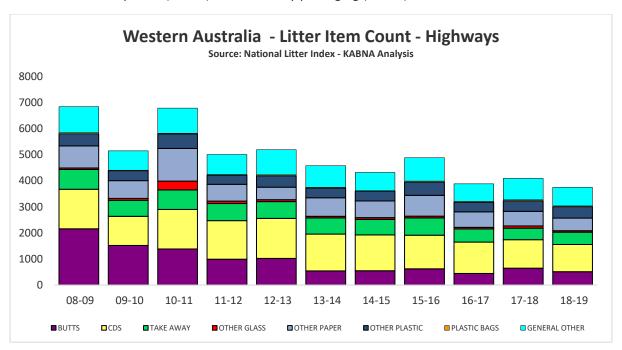
Car Parks

Litter levels increase by 27.7% at WA car parks, primarily driven by the impact of increases in cigarette associated litter (+24.5%) and to some extent other paper litter (+38.9%) and takeaway packaging (26.7%). There was also an increase across most other litter categories.



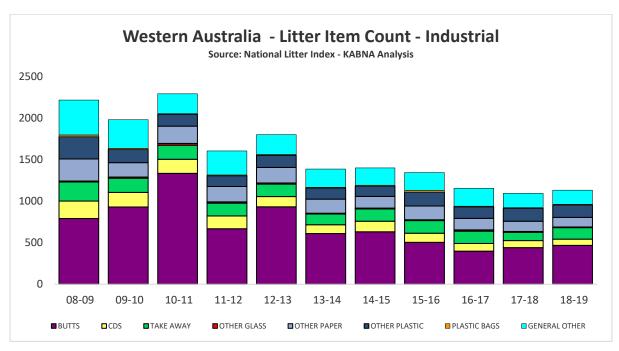
Major Roads/Highways

Litter levels on Western Australia's major roads and highways decreased by 8.2% in the 2018/19 litter monitor. The main contributors to the decrease were cigarette litter (-20.1%), other paper (-13.6%), general other litter (-12.8%) and beverage containers (-4.6%). The increases were offset mainly by decreases in other plastic (+8.4%) and takeaway packaging (+6.0%).



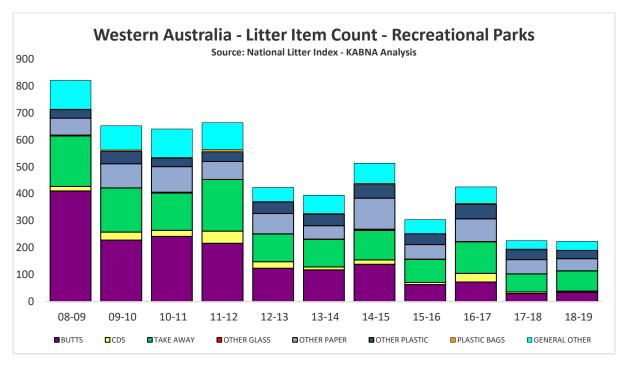
<u>Industrial</u>

The 2018/19 NLI recorded a marginal 3.5% increase in the litter counted around WA industrial precincts, with takeaway packaging (+38.1%) and cigarette litter (+6.4%) identified as the main categories contributing to the increase. All other categories experienced small decreases in their contribution to litter at industrial sites.



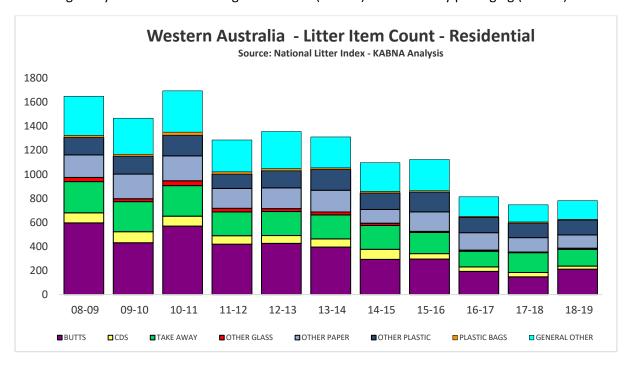
Recreational Parks

Litter counts in Western Australia's recreational parks decreased marginally by 1.5% in 2018/19, with other plastic (-16.4%) and other paper (-14.2%) experiencing the largest declines. These falls were offset to some extent by increases in cigarette litter (+16.7%) and takeaway packaging (+11.9%).



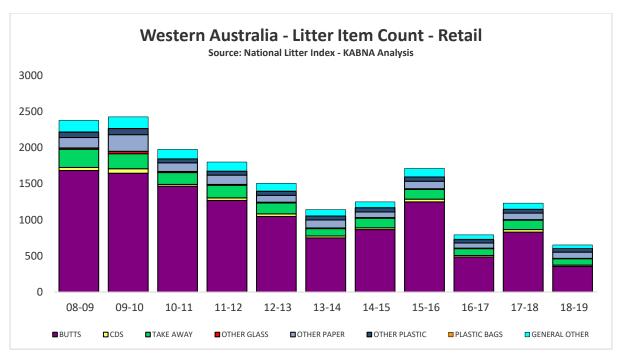
Residential Streets

The 2018/19 monitor recorded 4.7% more litter on Western Australia's residential streets, with the largest contribution to the increase from cigarette related litter (+43.2%). The increase was offset to some degree by decreases in beverage containers (-31.0%) and takeaway packaging (-15.7%).



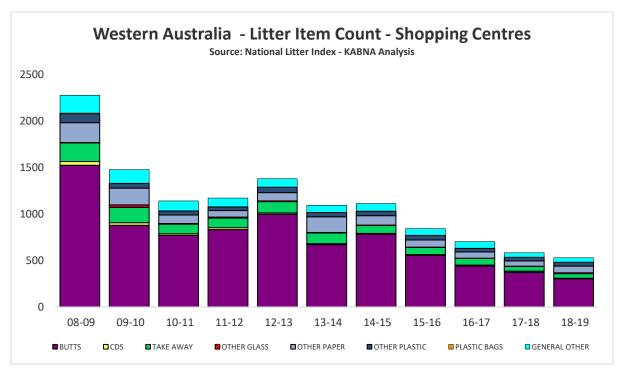
Retail Precincts

Western Australia's retail shopping strips experienced a significant decrease in litter in the 2018/19 monitor. The 46.9% decrease was mainly attributed to a decrease in the cigarette litter counted (-57.5%) and there were moderate decreases in takeaway packaging (-46.4%) and general other litter (-40.1%). All litter amongst other litter categories at retail sites also decreased in 2018/19.



Shopping Centres

Overall litter levels at shopping centres declined in 2018/19 monitor recording a 9.3% decrease in litter counted at these sites in Western Australia. The most notable decline in litter at shopping centres was cigarette litter (-18.3%), this was offset to some degree by an increase in other paper (+29.2%).



Normalisation for Area Surveyed

The data below has been normalised to the number of items per 1,000m² and litres per 1,000m² to be able to compare the amounts and volumes of litter by different site types.

The method to normalise the data uses the following calculation:

Items or litres per 1,000
$$m^2 = \underline{\text{the number of items counted}} \times \text{multiplied by 1,000}$$

divided by the area of sites

<u>Litter items per 1,000m²</u>

As demonstrated in the tables below, when the area monitored is taken into account, the 2018/19 litter monitor recorded, on average, 37 items per 1000m², a decrease from 40 items per 1000m² recorded in the 2017/18 monitor. Industrial precincts continue to have the highest litter loads in Western Australia (76 litter items per 1000m², up from 73 items per 1000m²).

		Items												
	WA	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total				
WA	Areas Surveyed	8000	34365	87565	14985	26000	35870	13556	15625	235966				
2018/19	Items counted (excl illegal dumping)	167	1492	3750	1133	224	782	654	529	8729				
2010/19	Per 1,000 sq m	21	43	43	76	9	22	48	34	37				
WA	Areas Surveyed	8000	34365	87565	14985	26000	35870	13556	15625	235966				
2017/18	Items counted excl illegal dumping)	403	1167	4089	1095	227	747	1232	583	9542				
201//10	Per 1,000 sq m	50	34	47	73	9	21	91	37	40				

Litter volume per 1,000m² (excluding illegal dumping)

In volumetric terms in 2018/19 there was 5.31 litres of litter per 1000m² across WA sites, a decrease from 6.30 litres per 1000m² estimated in 2017/18. Volumetric litter loads remain the highest on major roads / highways (11.72 litres per 1000m², down from 13.58 litres per 1000m² in 2017/18).

					\	/olume - Litre	S			
	WA	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total
WA	Areas Surveyed	8000	34365	87565	14985	26000	35870	13556	15625	235966
2018/19	Volume (excl illegal dumping)	5.622	58.323	1025.844	83.663	5.254	46.686	21.535	5.734	1252.660
2010/19	Per 1,000 sq m	0.70	1.70	11.72	5.58	0.20	1.30	1.59	0.37	5.31
WA	Areas Surveyed	8000	34365	87565	14985	26000	35870	13556	15625	235966
2017/18	Volume (excl illegal dumping)	9.653	48.012	1189.131	97.783	13.223	59.545	51.546	16.842	1485.733
2017/10	Per 1,000 sq m	1.21	1.40	13.58	6.53	0.51	1.66	3.80	1.08	6.30

Western Australia Litter Monitor Tables

<u>Detailed Litter Count Tables – Western Australia</u>

		Items								Beverage	Containers	Takeaway Food		
	WA - NOV 2018 & MAY 19 AVERAGE	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total	Beverage container	tems	Takeaway Food	Items
	CIGARETTE BUTTS	51	856.5	473.5				352.5	302.5	2731		0-		
	Alcoholic sodas / spirit-based mixers, all sizes Beer, all colours of glass, <750ml	0.5	3.5 9	29 142				3.5	0.5	37 163	У	37 163		
	Beer, all colours of glass, <750ml+	0.5	1.5	7		0.5	1.5	3.5	0.5	12	y y	12		
	Cider/fruit based etc.	0.5	1	4			0.5			7	y	7		
	Flav.wtr/fruit j. dr/sprts dr, (non-carb), <1 litre			0.5						1	у	1		
	Flav.wtr/fruit j. dr/sprts dr, (non-carb), 1 litre+ Flav. water/soft drink (carbonated) <1 litre			6	0.5					7	У	7		
SS	Flav. water/soft drink (carbonated) 1 litre+			0.5	0.5			0.5		1	у	1		
GLASS	Fruit juice, < 1 litre										у	200000000000000000000000000000000000000		
	Fruit juice, 1 litre+													
	Other glass Plain water (carbonated or non-carb.), <1 litre	311111111111111111111111111111111111111	9.5 1.5	54.5	7.5	0.5 0.5	10.5	5.5	8	97	,,	2		
	Plain water (carbonated or non-carb.), < 1 litre+		1.5	0.5		0.5				1	y V	1		
	Wine & spirit, all sizes		1	9.5			1			12				
	Wine cooler, all sizes			0.5						11	у	1		
	Total	2	27	254	18	2	15	11	9	337		229		
—	ILLEGAL DUMPING Aerosols - pressure packs			8.5 4	1		1.5 0.5	0.5		12 5				
	Alcoholic sodas & spirit-based mixers		2	83	12.5		1	2.5		101	y	101		
1	Beer, aluminium, all types, all sizes	0.5	2.5	64			1	1	0.5	79	у	79		
	Cider/fruit based etc.		1	2.5	10.5	0.5				4	У	4		
	Flav. water/soft drink, (carbonated), all sizes Flav. water/soft drink, (non-carb), all sizes	1	12	303 3	18.5 0.5	0.5	6.5	0.5	1.5	346 4	y V	346 4		
METAL	Foil take away	0.5	3	20	3	1	4	2.5	2	36	y	4	у	36
M	Food cans (including pet food)		1.5	7.5	3		1		3 2000000000000000000000000000000000000	13				
1	Industrial cans - all types	_		1.5			,,,	<u>, </u>		2				407
1	Metal bottle tops and can pull rings Metal pieces	7		30.5 79			13.5 18	15 8		161 146			у	161
1	Other foil	2.5	23	37				4		123				
	Total	13	108	635	112	20	68	37	27	1018		533		197
	Clothing & materials	8.5	22	150	30	9.5 0.5	18.5	3.5	5	247				
S	Condoms Construction materials		0.5	10.5	5.5	0.5	1.5	0.5		23				
MISCELLANEOUS	Disposable nappies		0.5	10.5	0.5		0	0.5		1		5/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2		(//////////////////////////////////////
N N	Ice cream sticks		1			1.5	1		1	5			у	5
1 =	Other miscellaneous		6.5	13.5	3.5		8	5.5	1	39				
SC	Rubber pieces (not tyres)	0.5	9.5	52.5 0.5	17.5	3	11	4	3	101				
₹	Syringes Tyres & pieces	0.5	0.5	47.5	3		0.5			52				
	Total	10	41	275	60	16	47	14	10	470				5
	Cartons, flavoured milk < 1 litre		0.5	34	2.5					37	У	37		
	Cartons, flavoured milk 1 litre+ Cartons, fruit juice, < 1 litre		0.5	1		0.5	1.5			6	V	6		
	Cartons, fruit juice, < 1 litre+		<u> </u>	3		0.5	1.3		2/2////////////////////////////////////	0	У			
	Cartons, milk, plain (white) all sizes			6.5	1					8				
₽ P	Cigarette packets		7	41	12		9	2	1.5	73				
OAI	Cups/take away containers Coffee cups	2.5 0.5	14.5 10	88.5 75.5	21 5.5		6 6.5			137 105			у	137
88	Flav. water/fruit j. drink/sports drink, non-carb, <1 litre	0.5	0.5	2.5			0.5			5	v	5		
PAPER/PAPERBOARD	Flav. water / fruit j. drink/ sports drink, (non-carb), 1 litre+			1						1	y	1		
MD/	Ice cream wrappers	1		2.5		0.5				5			у	5
l H	Junk mail / free circulars		2	4.5	2	0.5	11.5 1.5	0.5	0.5	24 8				
PA	Newspapers & magazines Other paper	20	121.5	480.5	115.5	45.5		87	73	1053				
	Packages & boxes	1	5	44.5	7	1.5	8	3	2	72				
	Paper bags	0.5	10		3.5		5	5		57			(((6)/6)/636	
	Shopper dockets & related shopping paper (eg, lists) Tickets, e.g. bus, ATM, vending machine etc.		25 8	110.5	6	1	10 3.5	5 2		175 17				
1	Total	26	210	928	177	52	174	115	101	1781		49		142
	6 ring can holders		0.5							1				
	Bags - heavier glossy typically branded carry bags		1	14			1.5		0.5	19				
1	Bags - supermarket type light weight carry bags Bread bag tags	0.5	2.5 0.5	13	4.5	0.5 2.5	4.5 1.5	2	1.5 0.5	7				
1	Containers, domestic type	0.5	0.5	6.5	0.5		1.5		0.5	8				
	Containers, industrial e.g. oil			8.5						9				
1	Drink pouches	0.5	1	42.5	2		0.5	0.5 1.5	0.5	48	У	48		
1	Flav. milk, <1 litre Flav. milk, 1 litre+		1	42.5	2		0.5	1.5	0.5	48	У	48		
1	Flav.wtr/fruit j. dr, sprts dr etc.(non-carb) <1 litre			24			2			27	у	27		
1	Flav. wtr/fruit j. dr, sprts dr etc.(non-carb) 1 litre+		0.5	5.5	0.5					7	У	7		
1	Flav. water/soft drink (carbonated) <1 litre Flav. water/soft drink (carbonated) 1 litre+		4.5	141.5 9			4.5 0.5	1.5		155 13	y	155 13		
ں	Fruit juice <1 litre		1	7.5			0.5			8	у	8		
PLASTIC	Fruit juice, 1 litre+			0.5	0.5					1				
Ĭ	Lollipop sticks	5	12.5	1	3	9.5	1.5	3	7	43			у	43
1 -	Other plastic Packing tape & straps	26 8	106 5.5	439.5 36	150.5 20.5	30.5 1.5	123.5 18	49 4.5	41 1.5	966 96				
1	Plain water (carbonated or non-carb) <1 litre	1.5	5.5	108.5		0.5	1.5	2.5	1.5	135	V	135		
1	Plain water (carbonated or non-carb) 1 litre+			17.5	1					19	у	19		
1	Plastic bottle tops	5	25	50.5				15.5	10.5	158			у	158
	Sacks - sheeting - other bags Snack bags & confectionary wrappers	11	32.5	30 91.5			1 53	18	10	33 266			V	266
	Spoons/ cutlery	2	72.5	13.5						42			y	42
	Straws	5	28.5	48	16.5	14.5	19	14	3	149			у	149
1	Styrene foam boxes, sheets, etc	1.	44.5	16.5						42				405
1	Take away & cups White milk, all sizes	1.5	14.5	52.5 4.5			9	4	1.5	105 5			у	105
1	Wine cask bladders			1.5			0.5	1.5		4				
	Total	67	251	1186	310	100	276	126	80	2393		414		762
	GRAND TOTAL	167	1492	3759	1134	224	783	654	529	8741		1224		1105

<u>Detailed Litter Volume Tables – Western Australia</u>

		Volume - Litres							Beverage Containers		Takeaway Food			
	WA - NOV 2018 & MAY 19 AVERAGE	Beach	Car Park	Highway	Industrial	Recreational Park	Residential	Retail	Shopping Centre	Total	Beverage container	Items	Takeaway Food	Items
	CIGARETTE BUTTS	0.005865	0.098498	0.054453	0.052498	0.004025	0.023345	0.040538	0.034788	0.314008		10.000		
	Alcoholic sodas / spirit-based mixers, all sizes Beer, all colours of glass, <750ml	0.231462	1.310050 4.166317	10.854700 65.735229	1.122900 2.777545	0.187150	0.187150 0.462924	1.620235	0.231462	13.661950 75.225174	У	13.662 75.225		
	Beer, all colours of glass, 750ml+	0.201402	1.360938	6.351044	0.453646	0.453646	1.360938	0.907292	0.201402	10.887504	y y	10.888		
	Cider/fruit based etc.	0.228927	0.457853	1.831412	0.228927		0.228927			2.976045	у	2.976		
	Flav.wtr/fruit j. dr/sprts dr, (non-carb), <1 litre Flav.wtr/fruit j. dr/sprts dr, (non-carb), 1 litre+			0.277143						0.277143	y V	0.277		
· ·	Flav. water/soft drink (carbonated) <1 litre			2.375044	0.197920					2.572964	y	2.573		
GLASS	Flav. water/soft drink (carbonated) 1 litre+			0.638623				0.638623		1.277246	у	1.277		
덩	Fruit juice, < 1 litre Fruit juice, 1 litre+										у			
	Other glass	0.019640	0.186580	1.070380	0.147300	0.009820	0.206220	0.108020	0.157120	1.905080		37///67/27/67/	07/17/27/31	
	Plain water (carbonated or non-carb.), <1 litre Plain water (carbonated or non-carb.), 1 litre+		0.871603	0.529625		0.290534				1.162138 0.529625	y V	1.162 0.530		
	Wine & spirit, all sizes		0.891400	8.468300			0.891400			10.251100	У	0.550		
	Wine cooler, all sizes			0.187150		7/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3				0.187150	у	0.187		
-	Total ILLEGAL DUMPING	0.480029	9.244742	98.318651	4.928238 24.000000	0.941150	3.337559 36.000000	3.274169 12.000000	0.388582	120.913120 276.000000		108.757		
	Aerosols - pressure packs			2.736960	24.000000		0.342120	12.000000		3.079080				
	Alcoholic sodas & spirit-based mixers		0.862800	35.806200	5.392500	570000000000000000000000000000000000000	0.431400	1.078500		43.571400	у	43.571		
, ,	Beer, aluminium, all types, all sizes Cider/fruit based etc.	0.215700	1.078500 0.431400	27.609600 1.078500	3.882600		0.431400	0.431400	0.215700	33.864900 1.509900	у	33.865 1.510		
, ,	Flav. water/soft drink, (carbonated), all sizes	0.425535	5.106423	1.078500	7.872402	0.212768	2.765979	1.276606	0.638303	1.509900	y y	1.510		
į	Flav. water/soft drink, (non-carb), all sizes			1.144800	0.190800			0.190800		1.526400	y	1.526		40
METAL	Foil take away Food cans (including pet food)	0.231190	1.387140 0.695700	9.247600 3.478500	1.387140	0.462380	1.849520 0.463800	1.155950	0.924760	16.645680 6.029400			У	16.646
/	Industrial cans - all types		0.000100	6.855060	1.001400		0.400000			6.855060				
	Metal bottle tops and can pull rings	0.028000	0.212000	0.122000 0.837400	0.082000	0.034000	0.054000	0.060000	0.052000	0.644000 1.547600			у	0.644
	Metal pieces Other foil	0.010600	0.100700	0.837400	0.254400	0.021200 0.012480	0.190800	0.084800	0.047700	1.547600 0.191880				
لــــــــا	Total	0.914925	9.910543	217.911527	20.486002	0.742828	6.563339	4.284296	1.887043	262.700503		227.708		17.290
	Clothing & materials	0.130050	0.336600	2.295000	0.459000	0.145350	0.283050	0.053550	0.076500	3.779100				
S S	Condoms Construction materials		0.180000	3.780000	1.980000	0.000160	0.000480 2.160000	0.180000		0.000640 8.280000				
MISCELLANEOUS	Disposable nappies		0.562500	0.100000	0.562500		2.10000	0.100000		1.125000				
Š	Ice cream sticks		0.000920			0.001380	0.000920		0.000920	0.004140			у	0.004
	Other miscellaneous Rubber pieces (not tyres)	0.000082	0.087750	0.182250 0.008636	0.047250	0.013500	0.108000	0.074250 0.000658	0.013500 0.000494	0.526500 0.016615				
ĕ	Syringes		77777777	0.001130		V. 27.27.27.2	372727272			0.001130				
	Tyres & pieces	0.112500	0.112500	10.687500 16.954516	0.675000		0.112500 2.666760			11.700000				0.004
$\overline{}$	Total Cartons, flavoured milk < 1 litre	0.242632	1.281833 0.336240	22.864320	3.726629 1.681200	0.160884	2.666760	0.308458	0.091414	25.433125 24.881760	٧	24.882		0.004
	Cartons, flavoured milk 1 litre+		0.506330	1.012660						1.518990	y			
	Cartons, fruit juice, < 1 litre		0.624750	1.874250		0.312375	0.937125			3.748500	у	3.749		
	Cartons, fruit juice, 1 litre+ Cartons, milk, plain (white) all sizes			6.582290	1.012660					7.594950				
ا ۾	Cigarette packets		1.525090	8.932670	2.614440		1.960830	0.435740	0.326805	15.795575		200000000000000000000000000000000000000		
OAF	Cups/take away containers Coffee cups	1.822375 0.245013	10.569775 4.900256	64.512075 36.996934	15.307950 2.695141	0.364475	4.373700 3.185167	2.915800 2.450128	0.735038	99.866150 51.207678			У	99.866 51.208
, <u>e</u>	Flav. water/fruit j. drink/sports drink, non-carb, <1 litre	0.243013	0.151200	0.756000	0.151200		0.151200	0.151200	0.733036	1.360800	٧	1.361	У	51.200
PAPER/PAPERBOARD	Flav. water / fruit j. drink/ sports drink, (non-carb), 1 litre+			2.070000		3 /2/03/03/03		3000000000000000000000000000000000000		2.070000	ý	2.070		
₽ .	Ice cream wrappers Junk mail / free circulars	0.002400	0.696000	0.006000 0.783000	0.348000	0.001200 0.087000	0.002400 2.001000	0.087000	0.087000	0.012000 4.089000			У	0.012
APE	Newspapers & magazines		2.360000	3.540000	6.6 16666	0.007000	1.770000	1.180000	0.007000	8.850000				
<u> </u>	Other paper	0.067600	0.410670	1.624090	0.390390	0.153790	0.371800	0.294060	0.246740	3.559140				
	Packages & boxes Paper bags	0.080000	0.400000	3.560000 0.306820	0.560000	0.120000	0.640000 0.052900	0.240000 0.052900	0.160000 0.021160	5.760000 0.597770				
	Shopper dockets & related shopping paper (eg, lists)		0.050750	0.224315	0.012180	0.002030	0.020300	0.010150	0.034510	0.354235				
	Tickets, e.g. bus, ATM, vending machine etc.	2.222678	0.007040 22.643901	155.645424	24.810191	1.056740	0.003080 15.469502	0.001760	0.003080 1.614333	0.014960 231.281508		22.004		151.086
$\overline{}$	Total 6 ring can holders	2.222010	0.000750	155.645424	24.010191	1.056/40	15.469502	7.818738	1.014333	0.000750		32.061		131.000
, ,	Bags - heavier glossy typically branded carry bags		0.087600	1.226400	0.175200	\$222222	0.131400	\$2000000	0.043800	1.664400				
, ,	Bags - supermarket type light weight carry bags Bread bag tags	0.016970	0.084850	0.441220 0.000230	0.152730	0.016970 0.000575	0.152730 0.000345	0.067880	0.050910 0.000115	0.984260 0.001495				
	Containers, domestic type	0.000113	0.000113	54.106000	4.162000	0.000373	8.324000		0.000113	66.592000				
, ,	Containers, industrial e.g. oil			190.893000						190.893000				
, ,	Drink pouches Flav. milk, <1 litre	0.043125	0.086250	0.086250 22.639750	1.065400		0.086250	0.043125	0.266350	0.345000 25.569600	У	0.345 25.570		
, ,	Flav. milk, 1 litre+		0.532700	22.639750	1.555400		0.200350	0.799050	5.250000		y			
, ,	Flav.wtr/fruit j. dr, sprts dr etc.(non-carb) <1 litre		0.00	17.702875	0.737620	<u> </u>	1.475240			19.915734	у	19.916		
, ,	Flav. wtr/fruit j. dr, sprts dr etc.(non-carb) 1 litre+ Flav. water/soft drink (carbonated) <1 litre		0.600551 2.799495	6.606066 88.028565	0.600551 1.244220	0.311055	2.799495	0.933165		7.807169 96.115995	y V	7.807 96.116		
	Flav. water/soft drink (carbonated) 1 litre+		1.654000	14.886000	3.308000		0.827000			20.675000	у	20.675		
≌	Fruit juice <1 litre			3.000349	1.069345		0.200023			3.200372	у	3.200		
PLASTIC	Fruit juice, 1 litre+ Lollipop sticks	0.002650	0.006625	1.068345 0.000530	1.068345 0.001590	0.005035	0.000795	0.001590	0.003710	2.136690 0.022525			y	0.023
ᆸᆸ	Other plastic	0.032500	0.132500	0.549375	0.188125	0.038125	0.154375	0.061250	0.051250	1.207500				
, ,	Packing tape & straps Plain water (carbonated or non-carb) <1 litre	0.002160 1.181850	0.001485 5.515300	0.009720 85.487150	0.005535 9.848750	0.000405 0.393950	0.004860 1.181850	0.001215 1.969750	0.000405 0.787900	0.025785 106,366500	V	106.367		
, ,	Plain water (carbonated or non-carb) 1 litre+	1.101030	3.313300	26.977475	1.541570	0.333830	1.101000	1.008730	0.707300	28.519045	у	28.519		
, ,	Plastic bottle tops	0.040025	0.200125	0.404253	0.200125	0.056035	0.156098	0.124078	0.084053	1.264790			у	1.265
, ,	Sacks - sheeting - other bags Snack bags & confectionary wrappers	0.086130	0.254475	0.009450 0.716445	0.000630	0.195750	0.000315 0.414990	0.140940	0.078300	0.010395 2.078865			٧	2.079
, ,	Spoons/ cutlery	0.019200	0.067200	0.129600	0.043200	0.009600	0.052800	0.072000	0.009600	0.403200			y	0.403
, ,	Straws	0.020625	0.117563	0.198000	0.068063	0.059813	0.078375	0.057750	0.012375	0.612563			ý	0.613
, ,	Styrene foam boxes, sheets, etc Take away & cups	0.310530	3.001790	0.618750 10.868550	0.675000 3.312320	0.018750 1.242120	0.225000 1.863180	0.018750 0.828080	0.018750 0.310530	1.575000 21.737100			v	21.737
		2.3.0000		9.615105	1.068345					10.683450			1	2131
1	White milk, all sizes													IN THE OWNER OF THE OWNER, WHEN THE OWNER, WHE
	Wine cask bladders Total	1.755880	15,143374	0.690000 536.959451	29.659154	2.348183	0.230000 18.625470	0.690000 5.808623	1,718048	1.610000 612.018182		308.514		26.119