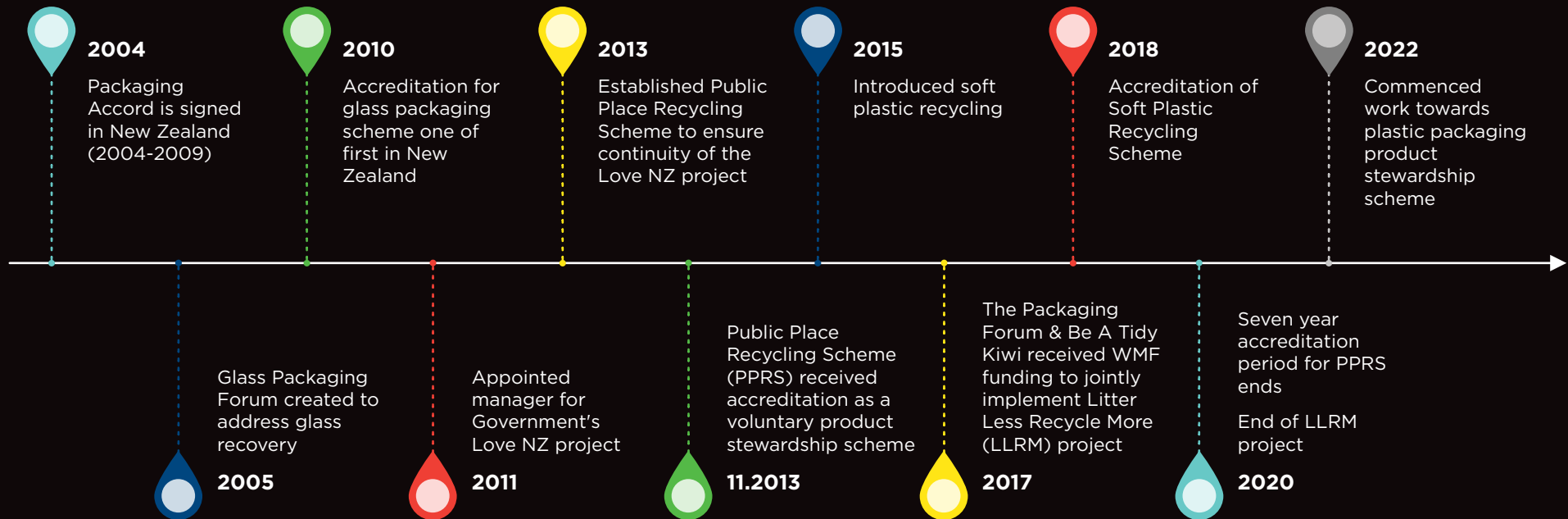


DELIVERING RESOURCE RECOVERY, RECYCLING & LITTER SOLUTIONS

REPORT 2022-2023

THE PACKAGING FORUM: OUR PRODUCT STEWARDSHIP JOURNEY



summary: business funding waste reduction & resource recovery solutions

The Packaging Forum has been investing in solutions for public place recycling and litter abatement since 2010 initially through the Love NZ Public Place Recycling project which was put in place ahead of the 2011 Rugby World Cup with funding from the Waste Minimisation Fund.

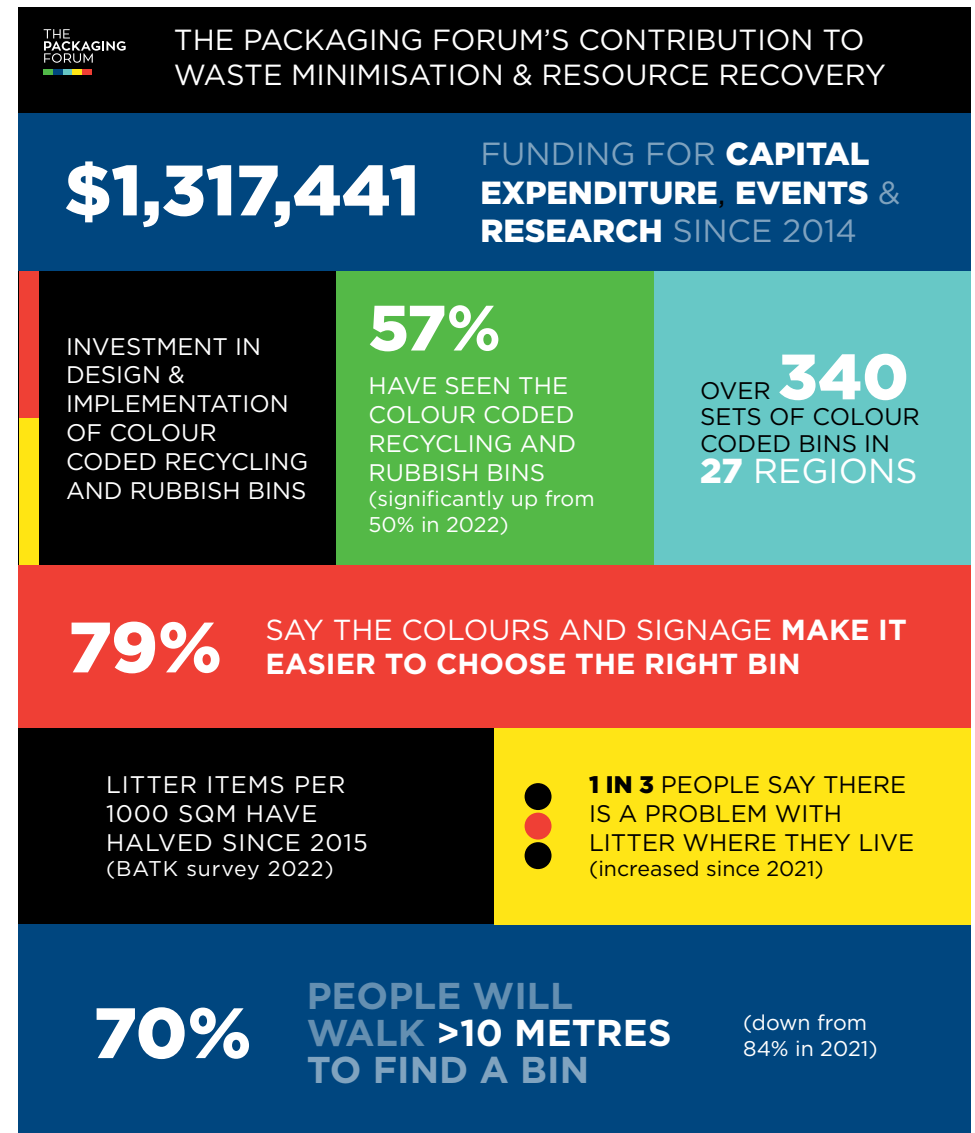
The Public Place Recycling Scheme was established by The Packaging Forum as an industry funded initiative to increase recycling and reduce litter by 2020. In 2014 this scheme received accreditation under the Waste Minimisation Act 2008 as a voluntary product stewardship scheme. This scheme operated for seven years ending in 2021.

The Packaging Forum and Be a Tidy Kiwi also managed the Litter Less Recycle More campaign from 2017 to 2020 with funding from the Waste Minimisation Fund. This established a standardised national network of colour coded “binrastructure”. Be a Tidy Kiwi continues to be The Packaging Forum’s community partner.

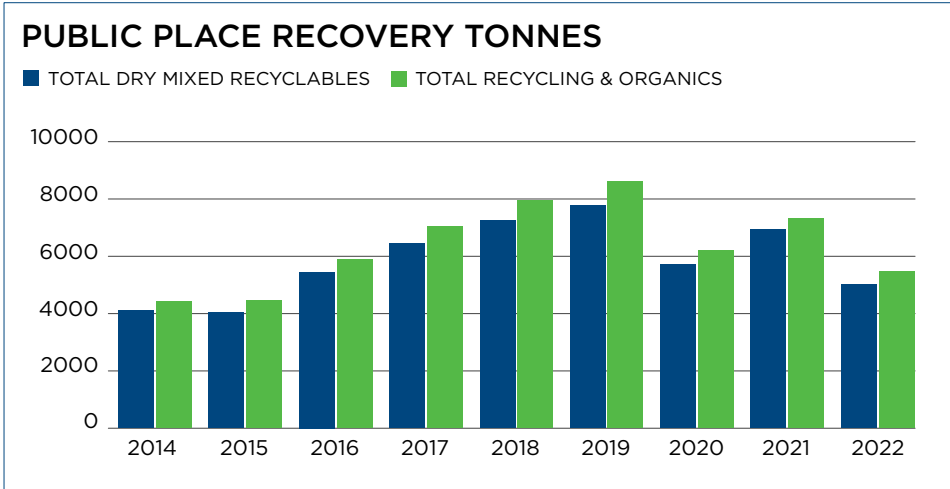
The Packaging Forum has collated public place recycling and rubbish data from funding recipients and scheme partners since 2012. This shows that while some organisations have increased “recycling binrastructure” others have removed recycling bins citing contamination and service costs.

The Packaging Forum advocates for source separated material collections where glass bottles, cans and plastic bottles have separate recycling bins with at least one rubbish bin in the bin combination. Our research shows that using colour coded standardised bins with clear signage and segregation reduces contamination.

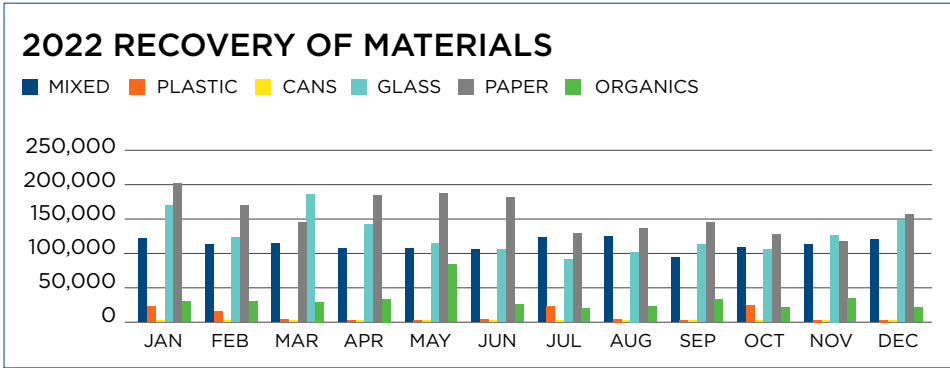
The Packaging Forum allocates funding to support organisations put in place solutions to reduce the creation of waste (reuse & refill infrastructure) and to increase the availability of public place recycling and rubbish “binrastructure” for communities and events.



summary of annual data (2014-2022) - measuring & monitoring



monthly summary



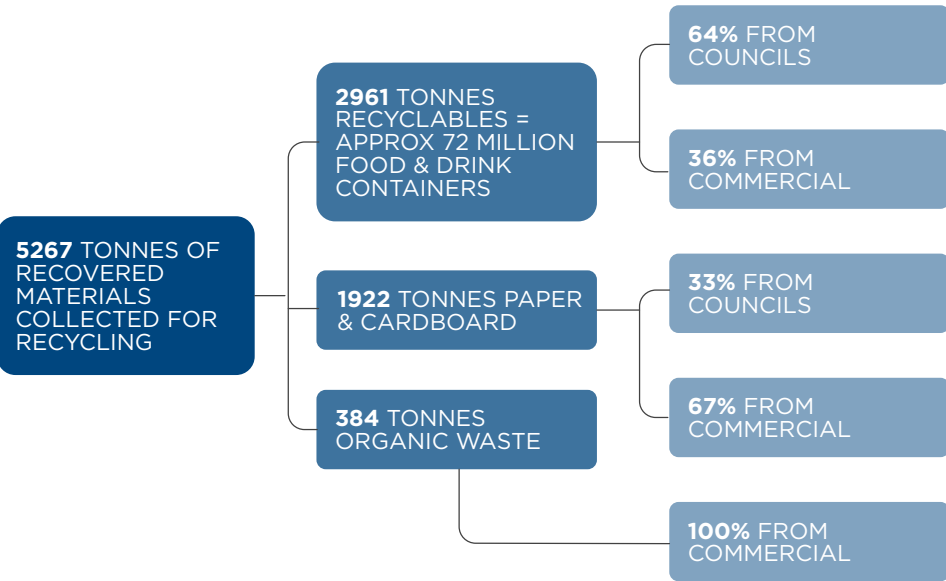
2022 key statistics

All the signs show a decrease in actual public place recycling.

In 2022, 5267 tonnes of materials were collected for recycling by the organisations which report to The Packaging Forum down 26% on 2021 data with council collections accounting for this decrease.

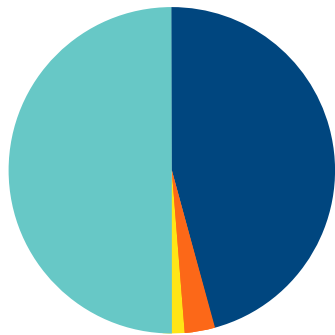
Participating councils reported tonnages down from 4964 tonnes in 2021 to 2528 tonnes with feedback that contamination levels are resulting in materials put in the public place recycling bins ending up in landfill.

In 2021, 66% of the total collected was via council “binrastructure” reducing to 48% in 2022 which also reflects the return of foot traffic to mall, transport hubs and events.



DRY RECYCLABLES IN PUBLIC PLACE RECYCLING BINS EXCLUDING PAPER

■ MIXED BINS
■ CANS ONLY BINS
■ PLASTIC ONLY BINS
■ GLASS ONLY BINS



how is it being collected?

Excluding paper and cardboard and analysing the data by estimated units calculated from an average container size per material type, 46% of containers were in mixed commingled bins, 3% plastic containers, 1% cans and 46% glass containers¹ This shows much greater source separation than in 2021 when 77% of containers were in commingled bins.

¹ Conversion factor: Mixed 23g; plastic 19g; cans 17g; glass 225g

closed loop organic/compostable collections

385 tonnes of organic waste was collected for composting from the shopping malls, airports and stadia which report their waste diversion. This is consistent with 2021 data and provides ongoing evidence of venues investing in closed loop compost solutions for their food waste and compostable products.

waste diversion at venues and events

Waste diversion across all venues reporting their recycling and waste data shows an increase recovery rate of 45% compared to 37% in 2021.

Airports

Average 37% recovery rate

Auckland, Christchurch and Wellington Airport were part of the original Love NZ programme starting in 2008. The 2022 report excludes data from Auckland Airport.

In 2022 Christchurch airport has introduced sortation of waste into



waste streams to increase resource recovery which will increase their recovery rate.

Stadia

Average 61% recovery rate

There are 15 stadia in New Zealand with capacity over 16,000 patrons. Data received from Mt Smart, QBE, Sky Stadium and Trusts Arena shows the average recovery rate is 61% comparable with pre-Covid performance and up from 55% in 2021.

Shopping malls

Average 61% recovery rate

The number of malls reporting has reduced but the recovery rate has remained consistent. In 2022 Bayfair in Tauranga became the first shopping mall in New Zealand to offer soft plastic recycling to its customers.

DHBs

Average 22% recovery rate

There were 20 DHBs in New Zealand prior to the move to a single agency Te Whatu Ora in July 2022. Data received from four of the boards indicated a 22% recovery rate.

what have we funded: reduce and reuse investment

Since 2014 The Packaging Forum has allocated **\$1.3 million** to support projects which increase the availability of public place recycling and rubbish facilities, and to education and research programmes.

The trends we are seeing in the availability and efficiency of public place recycling, has been reflected in a change to criteria for funding.

In 2022/23 **\$170,690** was allocated to projects which reduce waste generation, increase resource recovery in public places and at events and fund research to address litter.

2022 INVESTMENT	\$
Capex - reduce/reuse	\$38,385
Capex - recovery/recycling	\$56,805
Events	\$15,500
Litter + education	\$60,000



reduce: investing in refill stations

Funding to **Sustainable Waihi Beach** to support the installation of seven water fountain and bottle refill stations along Waihi Beach. Since installation in September 2022 water meter readings indicate a saving of over 5000 single use plastic bottles. These have been so successful that we have provided additional funding to support three new water stations at Anzac Bay, Island View playground and Athenree Harbour.

reuse: rinse & repeat

In July 2022, we celebrated the launch of Envirohub Marlborough's **Zero Waste Dishwasher Trailer** in Picton. This year we have also allocated funds to The Seaside Market in New Plymouth and The Wellington Trust for dishwash trailers for the community.

The Packaging Forum awarded funds to Waste Wizards in the Bay of Plenty to purchase 1000 stainless steel coffee cups and 100 “reusabowls” which **makewastehistory.nz** lends out to cafes, salad bars and offices. Customers borrow the cups and

lunch bowls via the Again Again App which also collates information on how much waste has been avoided.

recycle: championing resource recovery

Funding for “binrastructure” is linked to use of the colour coded standardised bin design and signage for events and venues and to material separate recycling units for public places.

Weightlifting NZ (WNZ) – working towards a sustainable competition

Two mobile recycling stations were in place at the World Masters Cup venue in Auckland to collect recyclables and to prevent litter. Over 350 masters’ athletes from around the world competed for World Masters, Commonwealth and Oceania medals and records.

This “binrastructure” will be used at all future WNZ events providing a legacy for the sport. 115kg of waste was collected for recycling during the five days of competition. WNZ also partnered with Be a Tidy Kiwi to encourage athletes and supporters to use reusable drinks containers and take any rubbish away with them.

Each athlete received a BATK cup and reusable bag with their registration.

Thames Coromandel: mobile recycling unit for transfer stations

The Packaging Forum has continued its ongoing support for public place recycling in communities providing funding to support the introduction of a mobile recycling unit as an after hours service for the new Whitianga transfer station. This will allow for source separate collection of fibre, metals, and plastics in a 30 cubic metre container.

post Covid-19 uptick in funding for events around the Motu

AIMS Games returned to Tauranga in September 2022. Close to 11,000 athletes from 323 schools and across 23 sporting codes competed at 28 venues around Tauranga Moana. With funding support from The Packaging Forum, 51 recycling stations were installed at the seven major venues and just over two tonnes of waste or 52% were diverted from landfill. The best on field recycling performance was the football at Gordon Spratt Reserve where 65% of the waste was diverted from landfill.

Savour in the Park, Picton – ready to kickstart summer

In November 2022 Pure Events Marlborough introduced a new festival celebrating the gastronomic delights of the region with entertainment by local and national acts.

Rotorua Crankworx

The Crankworx World Tour returned to Aotearoa in November 2022 for the series grand final before reverting to its normal timing in March 2023. As an international event putting Rotorua and the Bay of Plenty on the world stage, we provided funding for both events. This also allows us to track the progress made between November and March in terms of reducing waste by influencing packaging used by vendors and to learn that the pack out process contributes to a lot of the waste. Crankworx reports that exhibitor’s behaviour is starting to change with more awareness about what they brought on site. Soft plastic was also collected with the support of Countdown Rotorua. The organisers report that the major contaminant during event days was PLA cups which could not be composted or recycled.



Consumer research: monitoring behaviour and attitudes to drive change

Horizon Research surveyed 1090 respondents nationwide between 30 March and 4 April 2023.²

Results were compared with data from similar surveys conducted since 2011.

57% of respondents, equivalent to around **2.25 million adults**, have seen the colour coded recycling and rubbish bins – significantly up from **50%** in 2022.

² Respondents are members of the HorizonPoll national adult panel, the Horizon Research Māori panel, online panel and two third-party research panels, representing the New Zealand population aged 18+ at the 2018 census, used for source diversity. The total sample is weighted on age, personal income, ethnicity, education, party voted for in 2020, and region to match the New Zealand adult population. At a 95% confidence level, the maximum margin of error is +/- 3%.



Recognition in places where the bins have been installed for several years is higher: Dunedin (78%); Gisborne (67%) Rotorua (81%); New Plymouth (93%) Tauranga (84%).

79% said that the colours and signage make the bins easier to use.

68% say there is little or no problem with litter where they live, down from **79%** in 2022. **31% of respondents** said there was a problem with litter which is up from 21% in 2022 but still lower than pre-Covid results of 44% in 2019.

38% of people said they would walk more than 40 metres, up from **29%** in 2021 and significantly up from 23% in 2018 (826,969 adults). **30%** of people said they would not walk more than 10 metres which is back to 2017 levels.

Be a Tidy Kiwi research

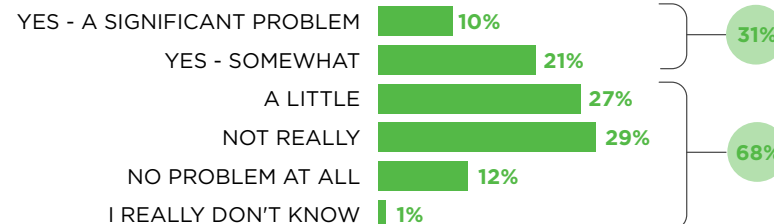
The Packaging Forum commissioned Be a Tidy Kiwi (BATK) to conduct litter counts using the UNEP litter categories. BATK surveyed sites in Wellington, Tauranga, Rotorua and Auckland which encompasses rural, suburban and urban settings. All survey locations are highly trafficked public places that enjoy regular cleaning via council contracts. (high-flux, high traffic). This enables the interviewing of amenity users as well as the observation of littering behaviour – both positive and negative disposals.

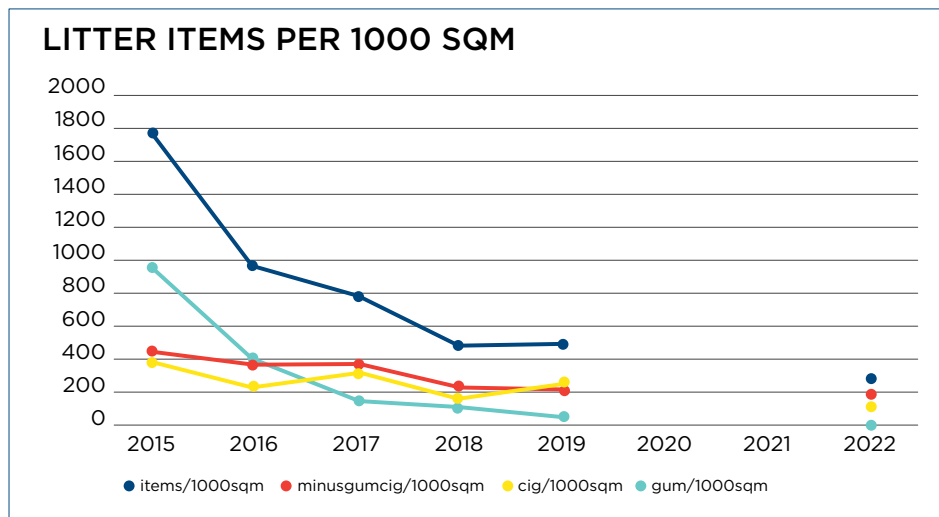
BATK counted 26,616 items as part of the audit.

BATK reports:

“The gradual downward trend in littering across the country continues; driven in large part by reductions in the littering of cigarette butts and gum. The littering of cigarette butts has fallen by a quarter since 2019, and gum by a factor of 10. This is hugely significant, as historically over half of all litter counted was one of these two items. How much of this is purely an effect of Covid-19 will be seen over time, but it does rhyme with the historical trend around the country, so there is reason to be cautiously optimistic that the reductions will be maintained.”

IS THERE A PROBLEM WITH LITTER IN YOUR NEIGHBOURHOOD?





The chart above illustrates the impact of the reduction of smoking and chewing on litter counts since BATK commenced audits in 2015 noting no counts were conducted in 2020 and 2021 due to Covid-19. The red line is all items minus both gum and cigarette butts, showing positive progress is occurring independently of these two demographic shifts.

where littering happens

Survey locations are highly trafficked public places, and much of what gets counted from beach cleanups originated in public places. People are “most likely to litter in transition locations where they spend very little time just passing through or transport related areas where they are forced to linger longer than they would like”.



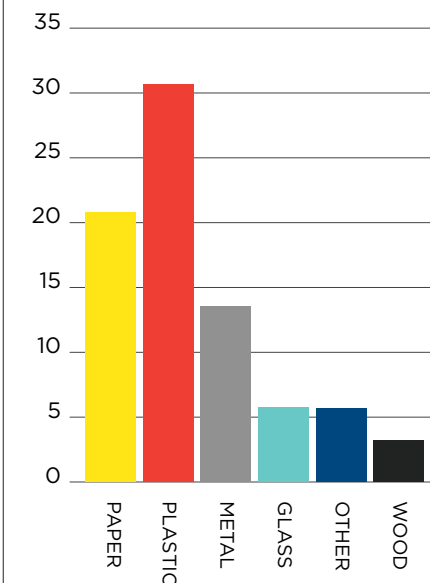
what gets littered

Historically, public places were dominated by two types of litter; cigarette butts and gum, representing over half of everything we counted. Covid-19 has changed all this.

In 2022, gum only represents 1.96% of what BATK counted – a massive drop compared to 2019 and a rapid acceleration of gum's long term downward trend. Cigarette butts have reduced by half since 2019.

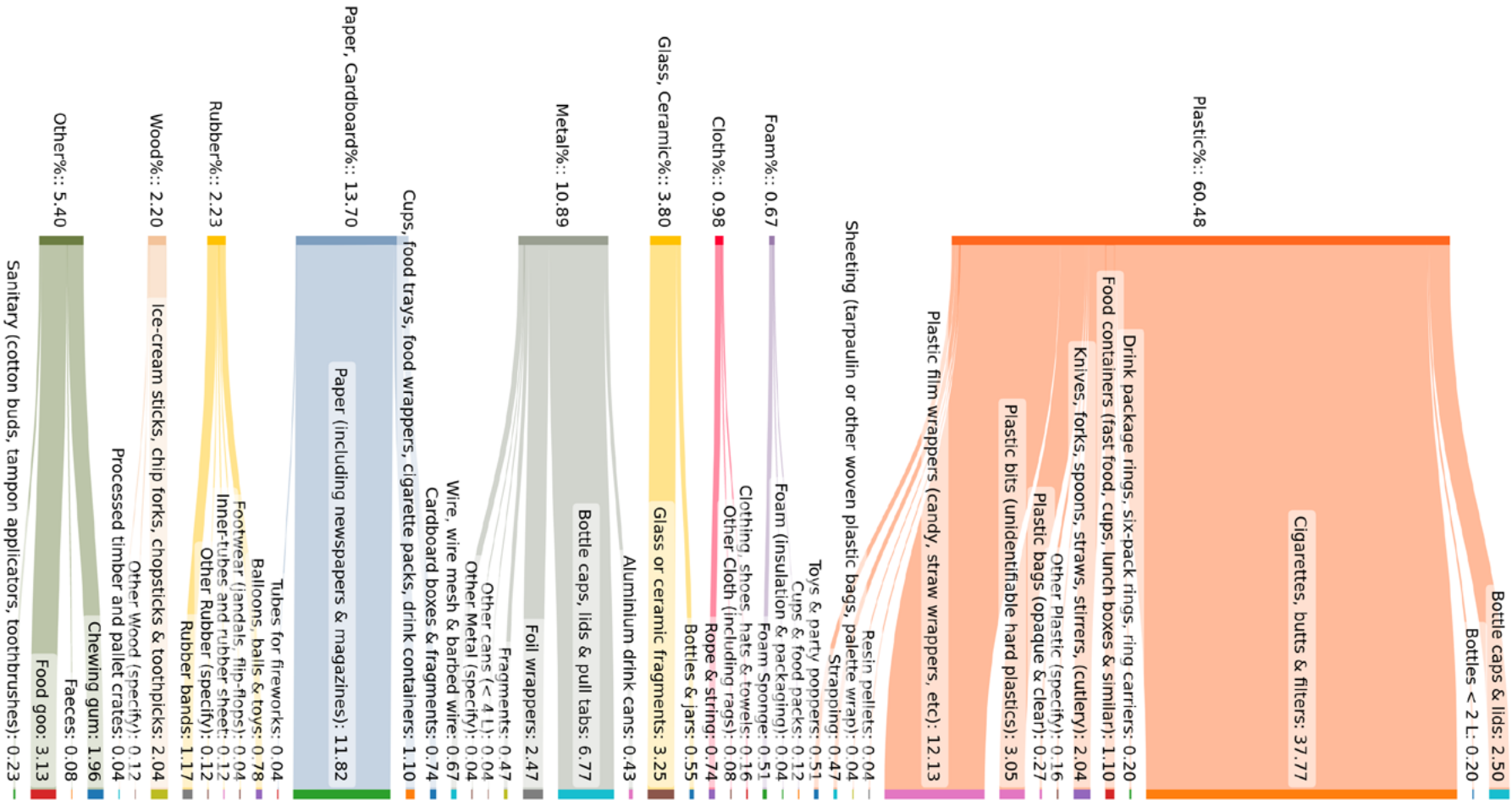
TOP 10 LITTER ITEMS (GROUPED INTO KEY AREAS)

ITEMS PER 1000 SQM



paper including newspapers & magazines
plastic film wrappers (confectionery, straw wrappers etc), unidentifiable hard plastics, plastic bits, bottle caps & lids, knives, forks, spoons, straws, stirrers
metal bottle caps & lids, pull tabs, foil wrappers
other food goo
glass or ceramic fragments
wood ice cream sticks, chip forks, chopsticks & toothpicks

PERCENTAGE OF LITTER ITEMS BY UNEP CATEGORY EXCLUDING CIGARETTES & GUM 2022



appendix 1

current waste generation - mass balance

Packaging and organic waste collected in public places is measured in tonnes. Data has been collected since September 2011.

The data is maintained as follows:

1. Recycling data for commercial entities which include transport hubs, stadia, leisure facilities etc
2. Recycling data for councils and commercial entities combined.

methodology

Kilograms are provided by location either as a commingled stream or separated into material type.

Some locations provide number of empties by bin size or cubic metres of recycling, and this is converted into kilograms based on an assessment of average kilogram as follows:

Figure 1: conversion volume to weight

MATERIAL	VOLUME	KG PER BIN
Plastic	240 litre	31kg
Cardboard/paper	240 litre	59kg
Glass	120 litre	70kg
Glass	240 litre	140kg
Plastic/cans/paper	240 litre	33kg
Commingled including glass	240 litre	59kg
Glass	1m ³	583kg
Plastic/cans or organics	1m ³	130kg
Mixed	1m ³	231kg
Paper	1m ³	231kg