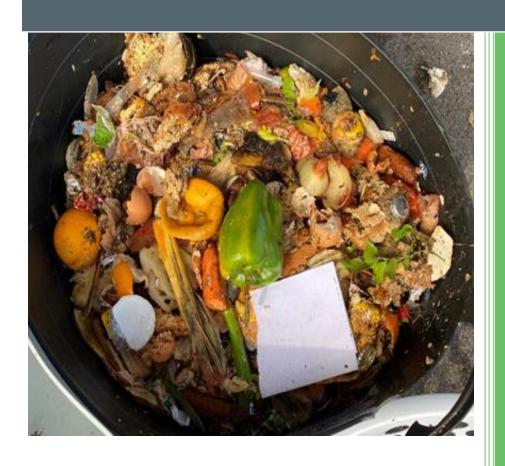


2024

# Magnetic Island Towards Zero Waste Strategy Waste Audit for MICDA



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# **ACRONYMS**

ABS Australian Bureau of Statistics
 APC APC Waste Consultants
 CRS Container Refund Scheme
 DESI Department of Environment, Science and Innovation
 FO Food Organics
 FOGO Food organics and garden organics

GHG Greenhouse gasGO Garden organicsMI Magnetic Island

MRF Material recovery facility
MSW Municipal solid waste
MUD Multi-unit dwelling
Qld Queensland

SD Single dwelling

TCC Townsville City Council

**TS** Transfer station



#### **EXECUTIVE SUMMARY**

The Magnetic Island Community Development Association (MICDA) are implementing a *Towards Net Zero Magnetic Island (Yunbenun) Climate Action* with funding from the Great Barrier Reef Foundation. As part of the project a *Towards Zero Waste Strategy* will be developed.

To support the development of the waste strategy and to provide an evidence base for decision-making a waste audit was commissioned by the Townsville City Council (TCC) to provide detailed granular data on waste generation and composition across a range of sources. Over the course of one week APC Waste Consultants (APC) collected random and representative samples of waste and recycling from a range of locations, facilities and events including: single dwellings (76), large unit complex (124), commercial accommodation (1), hospitality sector (12), litter bins (14), public events (2) and transfer station (2 days). All waste was physically sorted into 35 categories to determine how well patrons and users engage with the current waste system.

The audit found there is significant opportunity to improve current recycling practices as 14% to 20% of household bins contain recyclables destined for landfill. The current diversion of waste from landfill the domestic kerbside bin stream is just 15%.

When food and garden waste break down in landfill the generate methane, a greenhouse gas (GHG), impacting the earth's temperature and climate systems. Queensland and Commonwealth governments have announced policies and programs seeking to halve the amount of food waste generated by 2030 and reduce the amount of waste to landfill by 80% by 2050. The table below shows the potential opportunities to improve recycling and to reduce the amount of food and garden waste landfilled.

Table 1 Magnetic Island potential waste reduction opportunities by source

Waste source	% of recycing in general waste	% of organics in general waste	Total available
Single dwellings	14%	56%	70%
Multi -units dwellings	20%	49%	69%
Commercial - hospitality	12%	60%	72%
Commercial - accommodation	24%	42%	68%
Litter bins - Horseshoe Bay (weekday - weekend)	27% - 36%	0	27% - 36%
Litter bins - Ferry Terminal (weekday - weekend)	26% - 31%	0	26% - 31%
Events - Two Bay Trail Run	27%	51%	78%
Events - Sunday markets	37%	0	37%
Transfer station - general public - weekend	13%	0	13%

To collect garden and food waste a new or third bin for kerbside and commercial premises is needed. This new service requires significant investment in collection infrastructure - collection vehicle for weekly service to households, and more regular service to hospitality premises along with new collection bins, kitchen caddies and community education to motivate the behaviour change. An onisland processing solution is also needed. However, without this step change no real progress can be made.

The introduction of the Containers for Change container refund scheme provides an opportunity for 10 cent refunds to be redeemed on eligible used beverage containers. Currently, over 500,000 containers each year are discarded in household general waste bins and landfilled. This represents a potential loss of \$50,000 in community income. There are also large amounts of used containers in general waste bins at apartments, accommodation, hospitality venues and litter bins across the island.



#### 1. INTRODUCTION

Magnetic Island is located 8 kilometres from Townsville and is administered by the Townsville City Council (TCC). The island is within the World Heritage listed Great Barrier Reef area with approximately 78% of the island declared National Park with a dedicated Marine Park around the coastline. The island is home to a permanent population of 2,475 residents with over 300,000 visitors per annum.

The Magnetic Island Community Development Association (MICDA) applied for and were successful in securing a Community Climate Action Grant from the Great Barrier Reef Foundation for a project called Towards Net Zero Magnetic Island (Yunbenun) Climate Action Project. The goal of this grant is to accelerate community climate action projects for Yunbenun/Magnetic Island.

The climate action project will support businesses on the island to reduce their greenhouse gas emissions and reduce waste across households, businesses, and the tourism sector. The outcomes will be:

- Towards Zero Waste Strategy to document the recommended actions necessary to move the island to improved environmental, economic and social outcomes in relation to waste management.
- 2. A feasibility study to establish a Microgrid community battery trial to take place in 1 or 2 villages of Magnetic Island, aiming to scale up if successful to enable the island becoming powered by 100% renewable energy by 2030.

#### 2. METHOD

MICDA engaged APC Waste Consultants (APC) to lead the development of the waste strategy based on a portfolio of other island based work. TCC are supporting MICDA and also engaged APC to undertake a waste audit to gain a greater understanding of the amount, sources and detailed composition of waste generated by the community and visitors to Magnetic Island.

This audit provides council with insights into the current waste management services and provides an evidence base on which future decisions can be made regarding service delivery. This audit was conducted over one week from 25 to 31 May. No advance notice was provided to ensure the sample was representative of normal activity.

The audit included:

- 1. households (200)
  - a. Nelly Bay and Horseshoe Bay households (76)
  - b. apartments (124)
- 2. commercial
  - a. accommodation (1)
  - b. commercial hospitality premises (12)
- 3. public place litter bins Horseshoe Bay Park and ferry terminal
- 4. community events Sunday markets and Two Bay Trial Run
- 5. transfer station deliveries

Council supported the waste audit by collecting samples and providing a dedicated area adjacent to the transfer station for sorting. All waste was sorted to 35 categories and weighed. After the initial sort a count of coffee cups, used beverage containers eligible for the 10-cent refund and household hazardous items were also undertaken.





Image 1 Household samples delivered for sorting at Transfer Station

The analysis shows the results in tables and charts and the unit of measurement is weight unless stated as count. Results by weight are presented in two ways: generation and composition.

- **Generation** is the amount of waste generated per household / business kilograms per week.
  - > Single dwelling households as recycling is fortnightly collection the data is divided by two to represent weekly.
  - ➤ Multi-unit dwellings as collections are provided three times a week for general waste and recycling the amount of waste is multiplied by 3 for weekly and divided by total units 124.
  - > Commercial premises as the bin services frequency changes for premises we assumed the data from the sample day to be the same as the other collection day/s. The volume recorded per day is multiped by the number service days per premises and converted to weight.
- **Composition** is the percentage, by weight, of each category
- Categories charts are generally based on consolidated categories by grouping material categories as below.

Table 2 Waste sorting categories and consolidated categories

Canadistrate and actions and Consolidated acting the section of th			
Consolidated category	Waste category	Consolidated category	Waste category
	Paper, cardboard, LPB		Batteries
	Plastic rigid containers		Toner cartridges
Recyclable now	Glass bottles and jars		Mobile phones
	Aluminium		Gas Bottles
	Steel		Fire extinguishers
	Loose Food waste		Fluorescent globes
Organics (FOGO)	Containerised food	Hazardous and problematic	Smoke Detectors
	Garden waste		Oil - Cooking
Textiles	Textiles – reuse		Oil - Motor
	Textiles – recycle		Oil filters
Soft plastics	Soft plastics		Paints
Other	Other plastics		Chemicals
	Nappies / hygiene		Clinical/pathogenic/infectious
<b>E-waste</b> E waste -computer / TV / peripherals, electrical – Anything with a cord		ything with a cord	

The data for this study was collected and analysed using the best and most accurate methods available within the constraints of available time and budget. This study is a survey, which means that a relatively small amount of data has been collected and then treated as representative of the total. As in any survey, there are limitations to the accuracy of the data, as described below.



# 3 RESULTS

The results are presented by type of activity and source and grouped together as we consider that some readers would be more interested in some sections than other sections, and this allows the reader to review the sections most relevant to them.

The results are presented in the following order:

- Section 4 Households
- Section 5 Commercial hospitality premises
- Section 6 Commercial accommodation
- Section 7 Litter bins
- Section 8 Events
- Section 9 Transfer station



#### **3 HOUSEHOLDS**

Council provides each single household with a weekly 240 L general waste and a fortnightly 240 L commingled recycling service. Thirty-eight (38) households in both Nelly Bay and Horseshoe Bay were randomly selected by the driver from representative streets. Both general waste and recycling bins presented were collected separately with bin fullness recorded. The sample size is 76 households. As recycling is fortnightly the sampled was halved to get a per week rate.

For units one large complex of 124 units accommodating a combination of permanent residents, long term tenants and short-term commercial holiday accommodation was selected. All waste and recycling presented for collection on one day was sampled. This premises has multiple collections per week so the sample was multiplied by the number of services per week.

# 3.1 Bin volumes utilisation - single dwellings

- The average bin fullness for general waste bins was 71%
- The average bin fullness of commingled recycling bins 72%.
- 47% of general waste bins and 53% of all recycling bins were full to overflowing.

## 3.2 Household general waste generation

The weight of materials found in the general waste bins by housing type and overall

- The average single dwelling (SUD) generates 10.7 kg of general waste per week
- The average unit in multi-unit dwellings (MUDs) generate 4.2 kg of general waste per week
- Units generate 60% less the single houses

10.0 2.1 0.1 0.2 8.0 ■ Other 0.6 0.2 ■ E-waste 6.7 Nappies Weight in kilograms ■ Soft plastics 1.2 6.0 ■ Textiles-recycle 0.04 3.9 ■ Garden organics 0.5 0.1 ■ Packaged food 4.2 Loose food 4.0 0.6 1.6 CDS 0.2 0.4 1.0 Containers 0.9 Paper 0.9 2.0 1.1 1.1 1.1 0.4 0.4 0.5 0.3 0.3 0.6 0.3 0.4 0.0 SUD MUD Overall

Figure 1 General waste generation per household per week by housing type (kgs)



#### 3.3 Household general waste composition

The proportion of materials found in the general waste bins by housing type and overall.

- Units (MUDs) discard 46% loose and packaged food compared to single houses (19%)
- Units discard more recyclables (19%) compared to single houses (14%)
- Units have more soft plastics (9%) then single houses (5.5%)
- Units have more nappies (5%) then single houses (2%)
- Single houses generate 37% garden waste or 10 times units at 3%

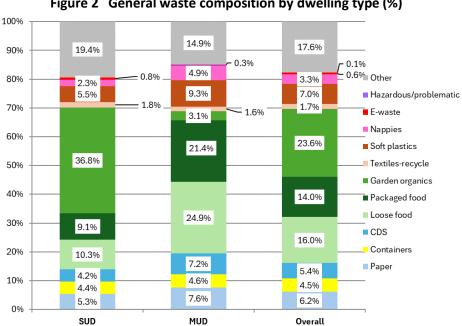


Figure 2 General waste composition by dwelling type (%)

## 3.4 Organic waste in the general waste bin

- single households discard 6.8 kgs per household per week or 63% of the general waste bin
- units discard 2.5 kg per household per week or 59%
- the average household generates 4.1 kg per household per week
- the 1,954 homes generate 416 tonnes per annum.

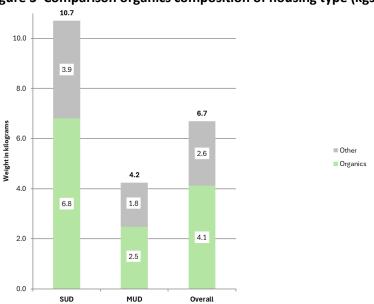
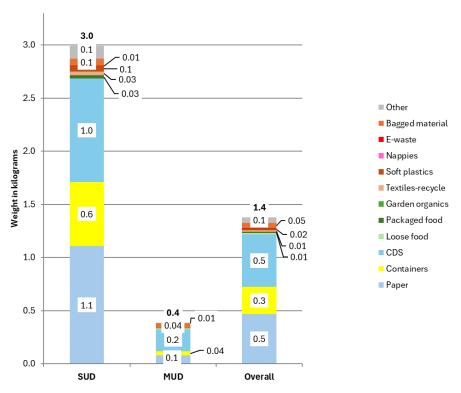


Figure 3 Comparison organics composition of housing type (kgs)

## 3.5 Recycling generation by housing type

- The average single house generates 3 kg of recycling per household per week
- The average unit generates 0.4 kg of recycling per household per week

Figure 4 Comparison recycling generation per household per week by housing type (kg)



# 3.6 Household recycling composition by dwelling type

- Units generate 63% recyclable containers, 20% paper and cardboard, 17% contamination
- Single households generate 52% recyclable containers, 37% paper and cardboard and 10% contamination

Figure 5 Comparion recycling composition by dwelling type (%) 100% 1.4% 4.1% 3.7% 2.1% 0.2% 3.6% 10.7% 1.7% 0.2% 1.4% 90% 1.2% - 1.0% 0.1% 4.1% 1.0% 0.9% 0.2% 80% <sup>∟</sup> 0.8% ■ Other 32.5% 0.7% ■ Bagged material 35.9% 70% Hazardous/problematic ■ E-waste 60% 52.0% Nappies 50% ■ Soft plastics 20.1% 18.5% Textiles-recycle 40% ■ Garden organics ■ Packaged food 30% 10.9% Loose food 20% 37.0% CDS 34.0% Containers 10% 19.9% Paper 0% SUD MUD Overall



# 3.7 Contamination in recycling stream

- Single houses are placing 10% of the wrong material in the recycling bin by weight
- Units are placing 17% of the wrong material in the recycling bin by weight
- Bagged material (garbage and recycling) are the biggest issue

Figure 6: Top five recycling contaminants by housing stock

Single dwellings	Units
Bagged material	<ul> <li>Bagged material</li> </ul>
Soft plastics	• Food
<ul> <li>Textiles</li> </ul>	<ul> <li>Garden waste</li> </ul>
<ul> <li>Packaged food</li> </ul>	<ul> <li>Non recyclable plastics</li> </ul>
E-waste	<ul> <li>Textiles</li> </ul>



Image 2 Bagged material found in recycling stream

# 3.8 Beverage containers eligible for a 10-cent refund

- Single houses
  - o generate 9 per week
  - 36% are in the general waste stream destined for landfill
- Units
  - o generate 3 containers per week
  - o 73% are in the general waste stream destined for landfill

## 3.9 Landfill diversion

Diversion rates tell us how much we are diverting from landfill through our recycling actions using the kerbside recycling bin.

- The state waste targets are that 90% by 2050
- The current landfill diversion is 15%.



# 3.10 Recovery rates

Recovery rates show how well we are recycling different materials.

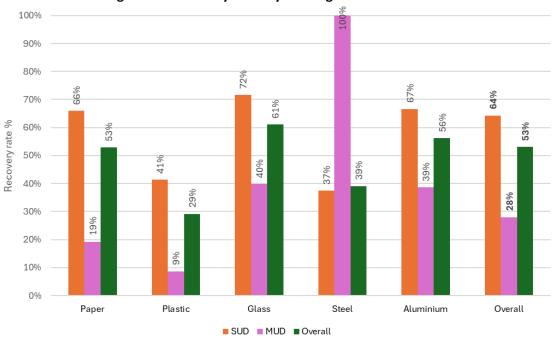
# At single houses:

- 60-70% of glass, aluminium and paper are recycled
- 30-40% of plastics and steel are recycled
- The overall average is 64%.

#### At Units

- 100% of steel was recycled
- 40% of glass and aluminium are recycled
- 20% paper are recycled
- 9% plastics are recycled
- The overall average is 28%.

Figure 7 Recovery rates by housing stock and overall





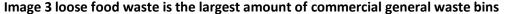
#### **4 COMMERCIAL HOSPITALITY SECTOR**

## 4.1 General waste and recycling generation – commercial hospitality sector

The nine premises presented bins for collection on the sample day and generated a total of 279.4 kg of general waste and 20.8 kg of recycling. 60% of the bin was loose and packaged food. Recyclable paper, cardboard and containers were 12% or 33 kgs.

42.0 250.0 5.9 26.5 ■ Other 200.0 6.7 **■** E-waste 40.4 ■ Soft plastics Weight in kilograms ■ Textiles-recycle 150.0 ■ Packaged food ■ Loose food CDS 100.0 125.3 Containers Paper 50.0 1.0 6.8 20.8 12.2 3.1 13.6 15.2 0.0 **General Waste** Recycling

Figure 8 General waste and recycling generation – commercial (kg)









Food waste found in the general waste bins including coffee grounds, food preparation and citrus

## 4.2 Waste generation per annum

These nine 9 premises generate:

- 2 tonnes of waste and 374 kgs of recycling per week.
- Each year over 100 tonnes of waste and 20 tonnes of recycling.
- Council advises there are 63 rateable commercial premises on the Island so the total amount
  of waste generated by the commercial sector is unknown but substantially more.

Table 3 Weekly waste generation by commercial premises (kg)

General waste	Recycling	Overall	
1939.5	374.0	2313.6	



## 4.3 General waste and recycling composition - commercial

Recyclable paper/ cardboard, containers and CDS containers represent 12% of the general waste bin and should be diverted to the recycling stream. The recycling stream contains mainly paper and cardboard at 73% and containers 7%.

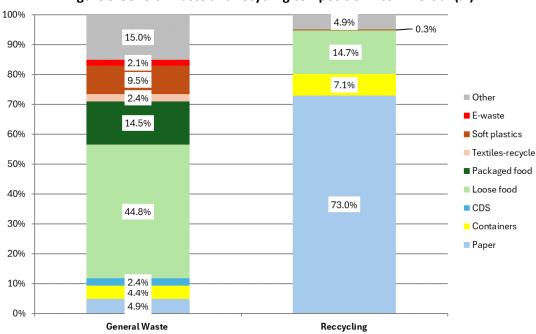


Figure 9 General waste and recycling composition - commercial (%)

Total organics in the general waste stream is 67% comprising loose food (45%), packaged food (14.5%), paper and cardboard (5%) and textiles (2%).

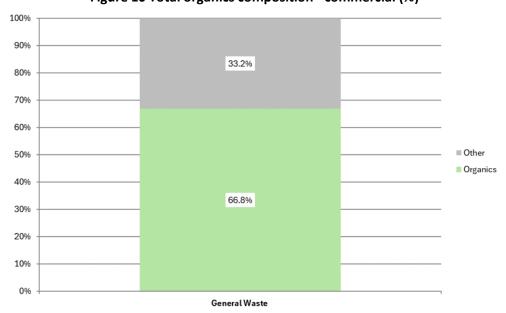


Figure 10 Total organics composition - commercial (%)



# 4.4 Contamination in recycling stream – commercial premises

Contamination is these samples was 20% of which 15% was loose food. Large amounts of bagged material and film plastic were found.

# Top recycling contaminants – commercial premises



# 4.5 Beverage containers eligible for a 10-cent refund

These 9 commercial hospitality premises generate:

- o 361 containers per week
- o 18,772 per annum
- o 100% were in the general waste stream destined for landfill

# 4.6 Coffee cups

These 9 commercial hospitality premises generate

- o 271 disposable coffee cups
- o 14,000 per annum
- o 97% were in the general waste as coffee cups are not recyclable



#### **5 COMMERICAL ACCOMMODATION**

One premises that can accommodate up to 179 persons was sampled and all waste and recycling presented for collection was sampled.

#### 5.1 General waste and recycling generation

This premises generated 73 kg of general waste and 33 kg of recycling on the audit day. Food was the largest component of the general waste stream at 31 kgs. Recyclable paper, cardboard and containers combined are 17 kg in the general waste bin. Recyclables in the recycling bin account for 30 kg of the 32 kg presented.

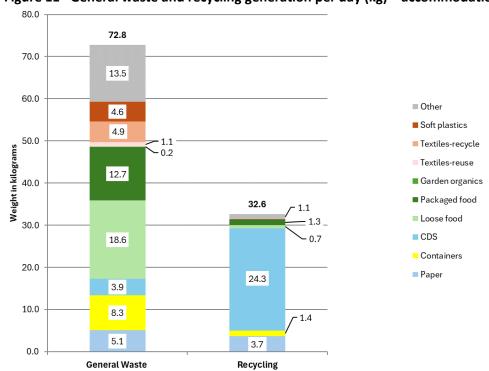


Figure 11 General waste and recycling generation per day (kg) – accommodation

This single commercial accommodation premise generates:

- Per week 509 kgs of waste and 228 kgs of recycling.
- Per year 26 tonnes of waste and 12 tonnes of recycling.
- Council advises there are 63 rateable commercial premises on the Island so the total amount of waste generated by the commercial sector is unknown but substantially more.

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## 5.2 General waste and recycling composition – accommodation

The composition of general waste and recycling stream audited of which 23.8% should be diverted to the recycling stream, including containers (16.8%) and paper and cardboard (7%).

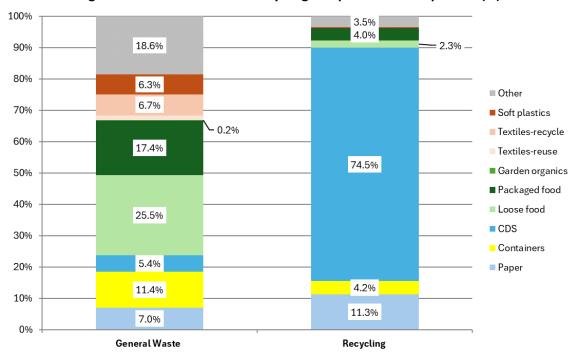


Figure 12 General waste and recycling composition – Backpackers (%)

Organic materials represent 58% of the general waste stream, comprising loose food (25%), packaged food (17%) paper and cardboard (7%) and textiles (7%). A food organics (FO) service could target 42% of the general waste bins.

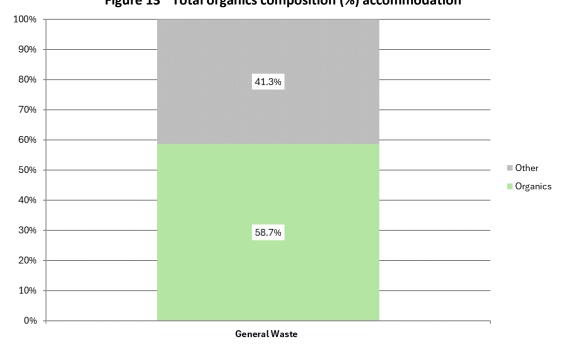


Figure 13 Total organics composition (%) accommodation



# 5.3 Contamination in recycling stream

Contamination was 10%, of which 6% was loose and packaged food, bagged material (3%) and film plastic (0.3%)

Figure 14 Top recycling contaminants – backpackers

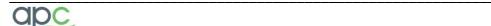
#### Top contaminants

- Loose food
- Packaged food
- Bagged Material
- Soft plastics

# 5.4 Beverage containers eligible for a 10-cent refund

This single accommodation premises generates:

- o 1029 containers per week
- o 53,500 per annum
- o 60% were in the general waste stream destined for landfill



#### 6. LITTER BIN

Four bin stations comprising eight (8) litter bins from Horseshoe Bay shops and park and six standalone litter bins at the Passenger Ferry Terminal were sampled on both a weekend day and weekday.

# 6.1 Litter bin generation comparison

The chart shows the weekday and weekend general waste generation at both Horseshoe Bay (HSB) and the Ferry Terminal (FT). As expected, the weekend usage is almost double the weekday usage indicating a greater amount of foot traffic at both locations on a weekend. There are more recyclables in the litter bins at the Ferry Terminal than at Horseshoe Bay as no recycling bins are provided at the Ferry Terminal concourse.

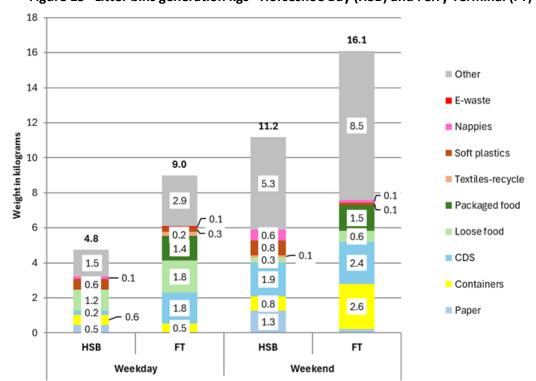


Figure 15 Litter bins generation kgs - Horseshoe Bay (HSB) and Ferry Terminal (FT)





## 6.2 Litter bin composition comparison

At the Ferry Terminal the litter bins, by weight, contain over a quarter (26%) of recyclable items on weekdays and 31% of recyclables on weekends. At Horseshoe Bay the amounts are similar at 27% on weekdays and 36% on weekends, even with recycling bins immediately adjacent to the litter bins.

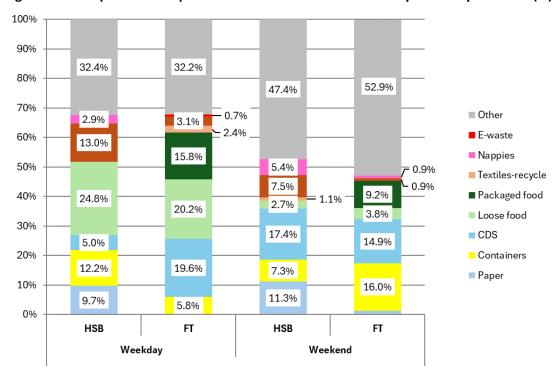


Figure 16 Composition comparison of litter bins at Horseshoe Bay and Ferry Terminal (%)

# 6.3 Beverage containers eligible for a 10-cent refund

## **Ferry Terminal**

- Weekday 32 beverage containers per day
- Weekend 38 beverage containers per day
- Annually over 12,200 beverage containers discarded

## **Horseshoe Bay**

- Weekday 15 coffee cups per day
- Weekend 34 cups per day
- Annually over 7,400 coffee cups discarded

# 6.4 Coffee cups

## **Ferry Terminal**

- Weekday 47 coffee cups per day
- Weekend 87 cups per day
- Annually over 21,000 coffee cups discarded

#### **Horseshoe Bay**

- Weekday 9 coffee cups per day
- Weekend 10 cups per day
- Annually Over 3380 coffee cups discarded



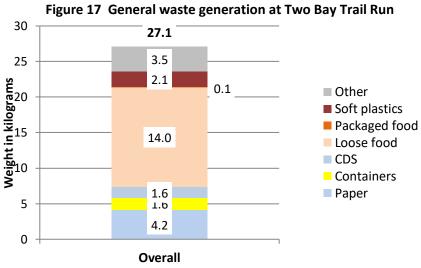
#### 6. EVENT RESULTS

The waste audit timing in 2024 was aligned with one of the largest events on the island calendar the Two Bay Trail Run held on Saturday 25<sup>th</sup> May and attracted 500 participants. The race started at the Nelly Bay school oval and the finished at the Arcadia Hotel. Any waste generated at both locations was collected. The other event was a regular Sunday markets held at Horseshoe Bay foreshore park on Sunday 26<sup>th</sup> May, 2024

#### 6.1 Fun Run

## 6.1.1 General waste generation

The event generated a small amount of waste at just 27.1 kg.



6.1.2 General waste composition - Fun Run

Just over half or 51.5% was loose food and just over a quarter (27.3%) was recyclable paper and containers that should have been diverted to a recycling bin.

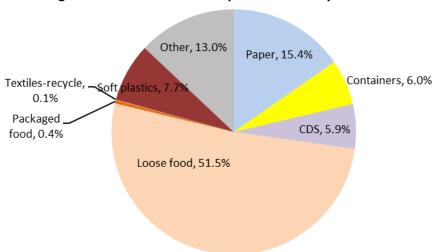


Figure 18 General waste composition Two Bay Trail Run

## 6.1.3 Counts - Fun Run

- 110 coffee cups used for water and unknown plastic water cups at finish line
- 65 beverage containers found at the race start.



## 6.2 Sunday markets

# 6.2.1 Waste generation

The event generated 73 kg of waste of which general waste (70.5 kg) and recycling (2.4 kg).

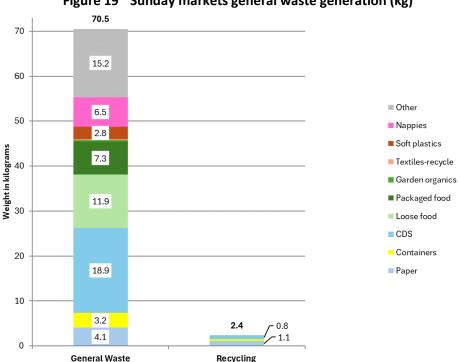


Figure 19 Sunday markets general waste generation (kg)

# 6.2.2 Waste composition

Recyclable containers and paper represent 37% of the general waste bin. The recycling bin had just 6% contamination which is an excellent result.

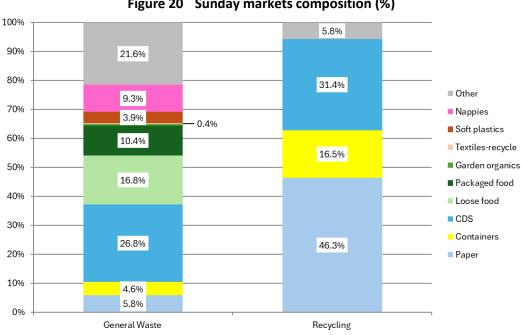


Figure 20 Sunday markets composition (%)

## **6.2.3 Counts**

- 154 coffee cups
- 236 beverage containers of which 76% were in the general waste bins destined for landfill



#### 7. TRANSFER STATION RESULTS

APC observed 12 loads delivered over a weekend to the Transfer Station (TS) for disposal. Any loads to resource recovery areas were not part of this audit.

#### 7.1 Generation – volume

The observed loads were an estimated at 9m³ of waste which was assessed visually. The top five materials by volume were plastic (3m³), wood and sawdust (1.9m³), cardboard (1.4m³), textiles (0.6m³) and metals (0.5m³). The 9m³ volume was converted to 1.1 tonnes of delivered materials.

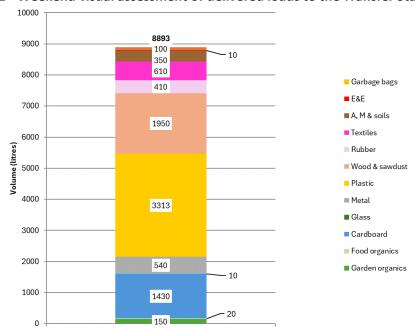


Figure 21 Weekend visual assessment of delivered loads to the Transfer Station (litres)

## 7.2 Composition - weight

The composition by weight shows top 5 materials as plastics (32%), wood and sawdust (25%), aggregates, masonry and soils (14%), rubber (9%), cardboard (7%). Identifiable organics comprise 39%.

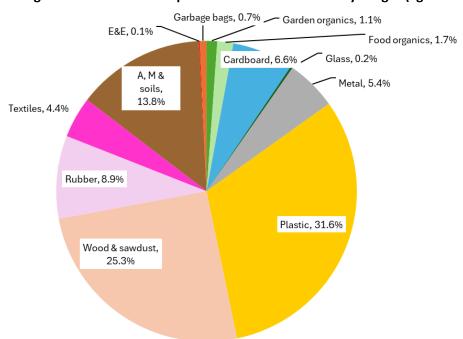


Figure 22 Estimated composition of delivered loads by weight (kgs



#### 8. OPPORTUNITIES

The Queensland and Commonwealth governments have introduced new policies and programs seeking to halve the amount of food waste generated by 2030 and reduce all waste to landfill by 80% by 2050.

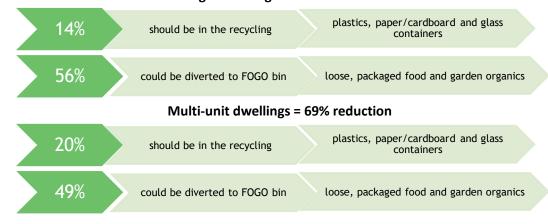
To achieve these targets requires a concerted effort by the entire community and council. This report provides data on where the opportunities are to increase recycling and identifies the amount of food and garden waste that could be diverted away from landfill if new services were introduced.

Many councils have introduced a third bin for garden organics which would target 37% of all single dwelling general waste. Organics – food and garden waste generated by households, the hospitality and commercial accommodation premises range from 59% – 67%. If a food and garden organics services (FOGO) was introduced it could target 56% of single household's general waste stream. Where garden waste isn't produced a food only (FO) bin service could target 49% of home unit's general waste bins and 60% of hospitality bins. However, the current government policy settings in Queensland are making it difficult for processors to incorporate food organics into composting feedstock.

The opportunities by audit location, material type and waste stream are summarised below. There are consistent opportunities to reduce waste to landfill by between 54-78% subject to type of activity excluding the transfer station.

## Households

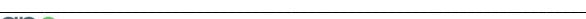
#### Single dwellings = 70% reduction



#### Commercial

# Commercial hospitality = 72% reduction

12%	should be in the recycling		plastics, paper/cardboard and glass containers	
60%	could be diverted to FO bin		loose and packaged food	
	Commercial accommod	ation	a = 68% reduction	
24%	should be in the recycling		plastics, paper/cardboard and glass containers	
42%	could be diverted to FO bin		loose and packaged food	





## **Litter bins**

## Ferry terminal litter bins = 57% reduction



#### **Events**

#### Fun run = 78% reduction

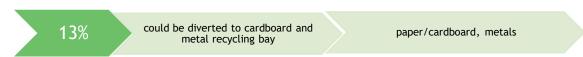


## Sunday market = 54% reduction



#### **Transfer station**

#### Transfer station = 13% reduction



In addition, currently while recycling bins of households and commercial accommodation contain less than 10% contamination recycling bins from home units and the hospitality sector exceeded industry standards. Ongoing messaging to the community and visitors to not place the following materials including bagged material, loose and packaged food, garden waste, soft plastics, non-recyclable plastic items and textiles in recycling bins.





#### APPENDIX A WASTE TERM DEFINITIONS

**Containerised food and liquid**: Bottle or takeaway container with residual food and liquid that would be considered a contaminant in a recycling or waste treatment facility.

**Contaminant**: Item that is not accepted for processing in the bin it is placed in.

Commingled collection: Pick up and transportation of mixed dry recyclable materials.

**FO** – food only bin typically used in commercial premises for food waste recovery.

**FOGO** – dedicated bin for food organic and garden organics collection typically processed into a compost product.

**Diversion rate**: The percentage of the total kerbside waste stream diverted from disposal not including clean-up collections, loose vegetation collections and drop-off systems.

Diversion rate

(proportion of waste diverted from landfill)

Weight of recyclables in the recycling bins – contaminants

(Weight of the contents of the general waste bins + weight of the contents of the recycling bins)

x 100

**Recyclable**: Able to be recovered, processed and used as a raw material for the manufacture of useful new products through a commercial process.

Recycling stream: Material source-separated for the purposes of recycling.

Recovery rate\*: The amount of material recovered from a product group as a percentage of overall consumption.

Recovery rate = Weight of recyclables in recycling bin weight of recyclables in general waste bin x 100

Segregation: Keeping the components of an assorted waste stream separated.

Source separation: Physical sorting of the waste stream into its components at the point of generation.

Problem waste: household hazardous waste as noted in the sorting categories and definitions list at Table 5.

Total waste stream: The combined waste and recycling streams.

Total organics – all organics materials in the waste stream

Waste composition: Component material types by proportion of weight or volume.



# APPENDIX B SORTING CATEGORIES AND DEFINITIONS

# Sorting categories and definitions

Waste sorting category	Definition	
Paper, cardboard, LPB	Cardboard, cereal boxes, egg cartons, detergent boxes, long-life and	
	alternatives milks, fruit juice cartons, pizza boxes (greasy stains and food scraps	
	to be removed), tissue boxes and toilet rolls. Envelopes, glossy magazines,	
	greeting cards, junk mail and brochures, newspapers, notepaper, office paper,	
	paper bags, phone books, receipts, wrapping and packaging paper	
	Food takeaway containers	
	Coffee cups	
Plastic rigid and	Milk, juice, cordial bottles, shampoo and conditioner bottles, soft drink bottles,	
bottles/containers	strawberry and fruit punnet, containers biscuit, sushi trays, takeaway	
	containers, cleaning product, yoghurt, margarine containers	
	CRS items – soft drink, water	
Glass bottles and jars	Jam jars, sauce bottles and jars, vitamin jars.	
	CRS - beer, wine and spirits bottles	
Aluminium	Aerosol cans, aluminium foil (scrunched into a fist-sized ball)	
	CRS - soft drink cans	
Steel	Aerosol cans (empty), food cans, paint tins (empty and dry)	
Food waste	Loose food – scrapping and peelings, meat, fish, chicken	
	Bones and seeds	
Containerised food /liquid	Any food in a package	
Garden Organics	Garden organics, leaves, flowers, grass, branches	
Textiles	For op shop reuse - Clothing, shoes, leather, Manchester	
	For rags / recycle – damaged and stained	
Nappies / hygiene	Used disposable nappies and hygiene products	
Soft plastics	Film, bags, stretch wrap	
Other plastics	Appliance parts, crate, boxes, toys, houseware/kitchenware, furniture, plant	
	pots, office accessories, video cases,	
E-waste	Computer / TV / peripherals	
	Electrical – Anything with a cord	
	Batteries - household	
	Toner cartridges	
	Mobile phones	
	Gas Bottles	
	Fire extinguishers	
	Fluorescent tubes/ globes	
Hazardous	Smoke Detectors	
	Oil - Cooking	
	Oil - Motor	
	Oil filters	
	Paints	
	Chemicals	
	Clinical/pathogenic/infectious	
Other		

