

# 2021 Summary report

WasteSorted Schools



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# What are schools doing to generate less waste?

This report presents a summary of Western Australia's WasteSorted Schools (WSS) Program for the calendar year 2020, as captured in the 2021 accreditation and reaccreditation survey. The survey was completed by 248 schools of which 24 were newly accredited schools.

Overall, 224 reaccredited schools reported undertaking a combined 4,189 WSS activities that contribute to avoiding, reusing and recycling waste. See Appendix 1 for more school information and data tables that support the evidence presented in this report.

## Avoiding

In 2020, **221 schools** implemented **1,462 activities** focused on avoiding the production of waste (Table 2). Like in previous years, these activities focused on:

- reducing paper use, food waste and packaging of items purchased
- using bin and waste audits to identify common waste items to target waste avoidance activities.

Schools also promoted waste-free days/lunches and made changes to canteen offerings and operations to minimise waste production.





## Reusing

In 2020, **214 schools** implemented **627 activities** focused on reusing waste (Table 3). Common actions reported included:

- reusing waste items in class
- collecting and storing resources for future reuse
- conducting lessons on reusing items
- joining [ReMida](#).

## Recycling

In 2020, **221 schools** implemented **2,100 activities** focused on recycling waste (Table 4). The most common actions reported included:

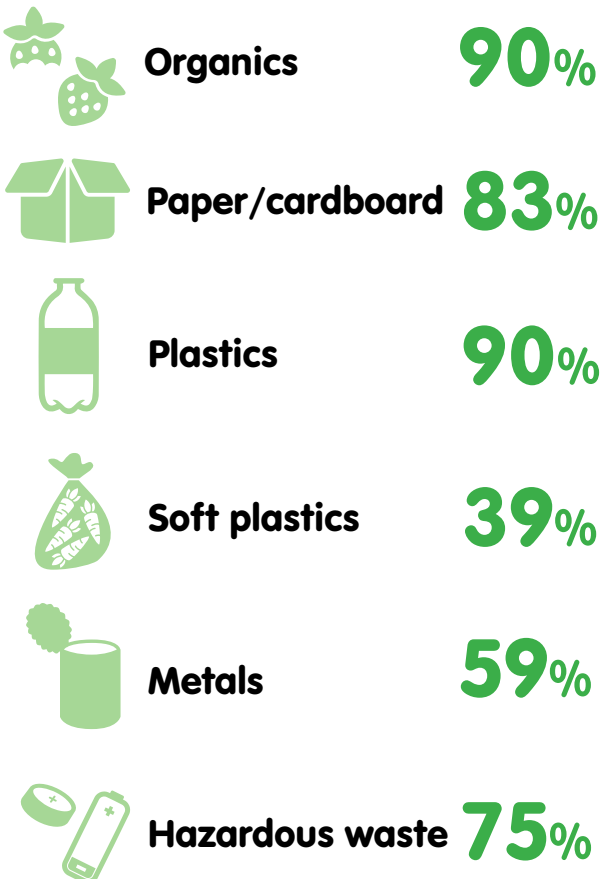
- conducting lessons on recycling
- recycling items including:
  - paper and cardboard
  - food scraps (through worm farms, composting, chickens, food organics and garden organics service [FOGO])
  - batteries and e-waste
  - other comingled products (plastics, glass, cans).

Creating and maintaining vegetable gardens was also frequently reported as a way of closing the loop and using onsite recycled organic waste.



# Estimated volumes of waste landfilled and recycled offsite

## Proportion of schools recycling:



A total of 195 schools provided a summary of their waste management contracts. This data was used to estimate the volumes of waste sent to landfill and recycled by external providers. The total waste generated per student has not significantly changed in 2020 (0.73 m<sup>3</sup> compared to 0.71 m<sup>3</sup> in 2019). While caution must be given to the reliability of waste estimate data, it is extremely encouraging to see that the percentage of total school waste recycled increased in 2020. This increase is explained by more paper and cardboard being recycled in 2020.

## Organics

The majority of WSS activities implemented by schools were focused on organic waste recycling, specifically targeting food waste. Most schools (202, 90 per cent) engaged in one or more forms of organic waste recycling using either onsite services (88 per cent of schools – composting, worm farms, chickens) or offsite collection and processing services (12 per cent of schools – food organics, garden organics or FOGO). The majority (84 per cent) encouraged a reduction in edible food waste by recommending appropriate portion sizing and requiring children to take uneaten food home. The collection and sharing of uneaten fruit at school stopped due to COVID-19 response.

School self-reporting on the estimated percentage of school food waste that was recycled onsite or offsite confirmed high rates of participation in food waste recycling activities and presented encouraging results showing separation and recycling of large percentages of food waste (Table 5). Similar results were seen in data reported in 2019.

## Paper/Cardboard

Schools implemented activities to reduce their paper consumption.

- 185 schools (83 per cent) reported undertaking actions related to paper and/or cardboard recycling. This represents a reduction of 11 percentage points compared to 2019 data. There was no reason uncovered for this reduction and the estimated volumes of paper and cardboard recycled actually increased.
- 216 schools (96 per cent) used an electronic platform to distribute school news instead of a paper newsletter.
- 204 schools (91 per cent) reported that students 'always' or 'often' put paper and cardboard in the correct recycling bin.
- 134 schools (60 per cent) reported having a policy on printer/photocopier usage to reduce the amount of paper consumed.

School self-reporting on the estimated percentage of school paper and cardboard waste recycled adds weight to the validity of the above findings by revealing high rates of participation in paper/cardboard recycling and high rates of recovery. More than 70 per cent of all schools recovered more than 60 per cent of paper/cardboard generated by the school and very few schools reported no paper/cardboard recycling occurring (Table 6).





## Plastics

Schools implemented plastic materials avoidance, reuse and recycling activities. Hard and soft plastic waste generation through school lunches was avoided through daily and weekly waste-free/nude food days routinely carried out by 85 schools (38 per cent). Seventy-two schools (32 per cent) participated in the global Plastic Free July campaign. Ninety-two schools (41 per cent) promoted low-waste and no-waste canteens that have as an objective, the removal of single-use plastics from use. For example, Wesley College introduced compostable plates and cutlery into the school canteen to avoid the use of single-use plastics.

In addition to waste avoidance activities, schools also reused plastic waste. Most schools (202, 90 per cent) reported reusing waste items such as plastic bottles and lids in class activities, with 188 schools (84 per cent) supporting this behaviour by storing waste items for future reuse.

About two-thirds of schools (145, 65 per cent) reported engagement in some form of hard plastic recycling<sup>1</sup>. This finding was supported by 122 schools (54 per cent) reporting the use of an external comingled collection service, with 90 schools (40 per cent) providing detailed evidence of the collection service. A reasonable number of schools (68, 31 per cent) reported recycling 61 per cent or more of their comingled waste (Table 7). Increasing participation in comingled waste services remains a secondary area of focus for the WSS Program with a priority on the waste streams that make up a higher proportion of school waste (paper, cardboard, organics).

More than 100 schools (46 per cent) provided evidence that they were participating in Western Australia's Containers for Change program. Incentivised by fundraising, this was a significant increase from the previous year when about 20 schools indicated their participation in the program.

<sup>1</sup> This does not include schools that were collecting plastic containers for the Containers for Change program.

## Soft plastics

More than a third of schools (88, 39 per cent) collected and recycled soft plastic through external schemes like REDcycle.

## Metals

The recycling of steel and aluminium cans was reported by 133 schools (59 per cent).

## Hazardous waste

Three-quarters of schools (169, 75 per cent) participated in battery recycling, often integrated into recycling hubs within the school that invite donations from the school community. For example, John Curtin College of the Arts has collected and recycled about 200 kg of batteries on an annual basis. Although not quantified in this report, previous evaluations have estimated aggregate battery recycling supported through WSS to be about 10 tonnes per year.





# Demonstrating positive waste behaviours

**A very high number of schools observed students very frequently (always or often) performing correct behaviours for recycling paper and cardboard (204, 91 per cent) and placing general waste in the correct bin (216, 96 per cent) (Table 8). Only 54 per cent of newly accredited schools reported students frequently performing the correct behaviours for recycling paper and cardboard.**

A large proportion of schools (151, 67 per cent) reported students were very frequently separating food waste and leading WSS projects within the school. Only 13 per cent of newly accredited schools reported students frequently performing the correct behaviours for separating food waste.

While the number of newly accredited schools was low (24), the evidence presented indicates that schools that have held WSS accreditation status for one or more years report improved student recycling behaviours.

Only 41 per cent of schools reported observing the frequent correct disposal of comingled recycling. This result is nine percentage points higher than the figure reported in 2019; however, the result is still relatively low and could be influenced by the lower take-up and availability of these services within schools. Only 13 per cent of newly accredited schools reported the frequent correct disposal of comingled recycling, thus demonstrating a better result from those schools with one or more years of accreditation status.

Only 7 per cent of reaccredited schools reported that students frequently engaged in littering behaviour. About 6 per cent of schools also identified incorrect waste disposal behaviours resulting in the contamination of recycling streams.



# Engaging the wider community

Participating schools engaged the wider community through active involvement in WSS-related activities such as maintaining gardens and inviting the donation of both common and difficult-to-recycle items that are stored in school recycling centres/hubs. Schools formed supportive relationships with local councils, regional shires and community groups that donate time, funds or expertise to support WSS-related activities at schools.

Schools also proactively promoted WSS messages, activities and achievements to the broader school community through a large number of channels such as school newsletters, media releases, events and school assemblies. Many schools (203, 72 per cent) provided specific examples of engagement with the broader community. For example, Honeywood Primary School reported that students had been speaking with their families about ways to reduce waste to landfill and providing examples of how their families are implementing WSS practices at home. More examples are described in Appendix 2.





# Waste-related infrastructure

**Many schools (157, 70 per cent) reported making improvements to waste-related infrastructure (Table 9). This recognises that changing waste behaviours alone is insufficient to achieve waste avoidance, reuse and recovery.**

The most reported change made was improvements to bin signage (56 schools, 36 per cent). This result was in part supported by funding from Keep Australia Beautiful which held poster and signage competitions for students and assisted schools to print signage. The second most common item reported was the adoption or enhancement of bin infrastructure to support the separation of bottles and containers eligible under the Containers for Change program. This change was reported by 54 schools (35 per cent).

Other common items reported included adding more comingled recycling bins and more paper and cardboard recycling bins, and the recycling of soft plastics. Schools also relocated bins to avoid confusion (and contamination). Other common themes included reducing the number of general waste bins in response to waste separation into recyclable streams.

Schools reflected on the grants they had obtained in previous years to improve waste-related infrastructure. More than 80 per cent of all grants focused on the reduction of organic waste with many reports that all, or the majority of, food waste had been diverted from landfill. Of the 172 schools reporting on past grants, 58 (33 per cent) indicated that the positive outcomes achieved had grown and strengthened since the grant was remitted, and 49 per cent indicated the benefits had fully continued, while 16 per cent indicated the benefits had only partly continued. Only 1 per cent indicated that all benefits had ceased, which indicates high levels of sustained benefit from WSS Program investment in grants.





# Success stories

Analysis of data reported by participating schools identified large numbers of positive outcomes being achieved. The most common positive theme that emerged in 2020 was the adoption of the Containers for Change program by about 46 schools. The establishment or continued success of composting and worm farms was also highly reported (35 schools) and was often linked with the establishment or success of vegetable gardens (22 schools). Infrastructure upgrades that supported the establishment of three-bin systems, recycling hubs and improved recycling infrastructure were also widely reported.

Other themes in success stories identified included:

- implementing a whole-of-school approach
- reusing waste in the classroom
- keeping chickens
- encouraging waste-free lunches
- recycling soft plastics.

Given the COVID-19 operating environment, re-establishing or continuing WSS activities was in itself an achievement reported by many schools.

Collectively, the stories reported support the achievement of *Waste Avoidance and Resource Recovery Strategy 2030* targets linked to avoiding waste, reusing waste and recovering and recycling waste. See Appendix 2 for a small sample of these positive findings.

Overall, it was found that schools valued the WSS Program, with 84 per cent of schools rating the WSS program as outstanding (34 per cent) or above average (50 per cent).



# Appendix 1

## Data tables

The following data tables and summaries are used to support the evidence presented in the main body of the report.

**Table 1. Numbers of accredited schools by types**

School type	Number of accredited schools	Proportion of schools (%)
Primary	193	78
Secondary	27	11
K-12	16	6
Education support	12	5
<b>Total</b>	<b>248</b>	

**Table 2. Avoid activities actioned in 2020**

Avoid activities	Number of schools (n=224)
Email or electronic school newsletter	216
Encourage reduction of edible food waste	189
Conduct lessons on reducing waste	179
Bulk purchase supplies	158
Paper use policy	144
Printer and photocopy restrictions	134
School-led bin system assessment	98
School-led waste audits	95
Weekly waste-free lunches	85
Low-waste canteen	85
Participation in Plastic Free July or other campaigns	72
No-waste canteen	7

**Table 3. Reuse activities actioned in 2020**

Reuse activities	Number of schools (n=224)
Reusing items in class	202
Collecting and storing resources for future reuse	188
Conducting lessons on reusing	178
Member of ReMida	59

**Table 4. Recycling activities actioned in 2020**

Recycling activities	Number of schools (n=224)
Recycling paper and cardboard	210
Conducting lessons on recycling	177
Recycling food scraps	176
Recycling batteries	169
Worm farming	158
Recycling printer cartridges	156
Composting	145
Recycling aluminium cans	129
Closed loop veggie gardening (closing the loop on organics recycling)	129
Recycling hard plastic	120
Recycling glass jars and bottles	111
Recycling soft plastic	88
Conducting lessons on organics	84
Recycling steel cans	81
Recycling mobile phones	70
Recycling toothbrushes	54
Keeping chickens	43



**Table 5. Proportion of food waste recycled**

Proportion of school food waste recycled (%)	Number of Schools	Proportion of schools (%)
1–20	49	22
21–40	37	17
41–60	30	13
61–80	35	16
81–100	35	16
None	25	11
Unsure	13	6

**Table 6. Proportion of school paper/cardboard waste recycled**

Proportion of school paper/cardboard waste recycled (%)	Number of Schools	Proportion of schools (%)
1–20	11	5
21–40	9	4
41–60	21	10
61–80	83	38
81–100	86	39
None	3	1
Unsure	7	3

**Table 7. Proportion of school comingled waste recycled**

Proportion of school comingled (plastic, glass, metal) waste recycled (%)	Number of Schools	Proportion of schools (%)
1–20	29	13
21–40	30	14
41–60	33	15
61–80	35	16
81–100	33	15
None	33	15
Unsure	23	11

**Table 8. Frequency of observed student behaviours at accredited schools reported by teachers (2020)**

Student behaviours	Always	Often	Sometimes	Never	Not Applicable	Total
Placing glass, hard plastics, steel cans and aluminium cans in the comingled recycling bin	16	75				
	Combined: 91 (41%)		63	6	64	224
Placing paper and/or cardboard in the correct paper/cardboard recycling bin	75	129				
	Combined: 204 (91%)		12	1	7	224
Separating food waste to be recycled either in compost or worm farms or via a waste service provider	50	101				
	Combined: 151 (67%)		39	9	25	224
Placing general waste in the waste bin	104	112				
	Combined: 216 (96%)		6	2		224
Taking responsibility for the running of WasteSorted (waste-related) projects	36	92				
	Combined: 128 (57%)		74	6	16	224
Volunteering their free time (recess, lunch time, after school) to take part in WasteSorted activities	29	86				
	Combined: 115 (51%)		84	7	20	226
Initiating WasteSorted projects or activities	13	55				
	Combined: 68 (30%)		114	24	18	224
Littering of waste items	2	14				
	Combined: 16 (7%)		135	61	12	224

**Table 9. Infrastructure improvements**

Infrastructure improvement categories	Number of schools
Signage	56
Containers for change	54
Increased number of recycling streams	27
Organic waste bin/container/caddy	27
Bin replacement/upgrade/resize	23
Paper/cardboard recycling bins	20
Soft plastic collection bins	19
Relocation of bins	17
Decreased number of general waste bins	12
More bins in classrooms/all classrooms have bins	11
Three-bin system introduced	10
Bin or lid colour changes	9
Battery bin	7
Recycling hub	6
Waste education posters	5
More waste segregation	5
Miscellaneous (e.g. bins for recycling difficult items)	5
FOGO bins	4
Compost bins	2
TerraCycle/Tetra Pak bins	2
Change frequency of bin collection	1
Mulcher	1
E-waste collection bins	1



# Appendix 2

## Stories from schools

### Success stories

**Kinross Primary School's** sustainability coordinator is released from class to teach 20 students from Year 1 to Year 6 about gardening, worm farming and composting every Friday afternoon as part of the school's Garden Gurus program. The three-week program is repeated twice a term with new students.

**Rockingham Montessori School** used lockdown to teach, promote and embed its WSS practices at home (home composting and gardening, as well as separation of waste). The school also embedded a WSS approach into all take-home documentation, promotional material, emails and digital notices for excursions and community events.

**North Morley Primary School** integrated WSS into its curriculum, with a lead teacher (voluntarily) coordinating the program and accreditations.

**West Busselton Primary School** reported: "Over the past two years, we have not put out any general waste bins."

**Ocean Road Primary School** had worm towers for each classroom and established a community recycling centre partnered with TerraCycle.

**Gilmore College** reported a 50 per cent reduction in litter and created about 200 plastic bricks (each 1.25 L) to make a garden bed.

**Augusta Primary School** won the WSS of the Year for 2020 for employing a multifaceted approach towards WSS education. The school also increased community group participation with the Busselton Margaret River Tourism Association.

**Malvern Springs Primary School** reported: "We have recycled over 6000 containers since October [through Containers for Change]."

**Joseph Banks Secondary College** noticed a change in student and staff engagement in waste management throughout the school, with staff becoming more aware of the school's committee and keen for more sustainability projects in the future.

**Bambara Primary School** collected food scraps from classrooms to reduce food waste after it was found to be the lead waste source in the school's waste audit.

**Alinjarra Primary School's** student awareness increased dramatically, with good core recycling habits by all Alinjarra students, staff and parents. The school's recycling has increased tenfold because of constant promotion and education of WSS practices.

**Bridgetown Primary School** reduced food waste to almost zero by providing scrap bins during Crunch&Sip and providing no bins at lunch.

**Christmas Island High School** shredded almost 200 kg of paper in a year. All shredded paper went into the chicken coop or composted, or staff took it home for their chickens and gardens. The school also sent its first box of pens and pencils to TerraCycle for recycling.

**Greenwood Primary School** delivered 62 kg of aluminium ring pulls and 20 kg of cans to Wheelchairs for Kids to assist in the production of new wheelchairs for children overseas.



## Broader community engagement

Examples of engagement with the broader community:

### Active participation

- Community recycling stations/hubs and participation in specific external recycling programs have encouraged engagement with the broader school community. Community members bring in items that are collected by the school. Examples of items collected include:
  - ring pulls
  - bottle lids
  - oral care products
  - stationery
  - batteries
  - soft plastics
  - valid Containers for Change containers
  - bread tags (supported through Bread Tags for Wheelchairs)
  - mobile phones (via Mobile Muster)
  - ink cartridges
  - coffee pods.
- Compost, worm farm leachate and garden produce were shared with, or sold to, the community.
- Community members participated in school-led Clean Up Australia Day and other events.
- Parents and citizens associations (P&C) assisted in building/maintaining garden beds.
- P&Cs were engaged to assist with soft plastic collection and drop-off for programs like Replas.

### Relationships

- Relationships have been established with local governments, including involvement from waste education coordinators. For example, Central Midlands Senior High School worked with its local council to set up a Containers for Change collection point at the school.
- Relationships were established with Scouts groups, Lions Clubs, Foodbank and local cafes.





## **Education and awareness**

- WSS principles have been embedded in school events, such as bush dance and carols at Rockingham Montessori School.
- Community members participated in school-led Clean Up Australia Day and other events.
- The parish priest encouraged recycling amongst parishioners (Our Lady of Lourdes Dardanup).
- Sustainability has been embedded within the school procedures such as weekly and fortnightly staff meetings and P&C meetings.
- School children have made waste education posters for display around the school and their homes to educate the community.
- The community has been kept informed about waste-related news through photos and updates in the school e-newsletter and through mobile apps, school websites and social media.
- Schools have participated in and hosted sustainability expos and held sustainability/waste-related stalls at school events.
- Schools have engaged with parents and carers to educate and encourage participation in waste-free/nude food lunch days.
- School-led WSS activities and achievements have been featured in local newspapers. For example, Boyanup Primary School WSS activities were featured in the Boyanup Post.



## Promoting change at home

Examples of positive change being reported at home:

- Students at Excelsior Primary School have been encouraging parents and guardians to pack waste-free lunchboxes daily.
- School children have been correcting parents' waste disposal choices at home. For example, the WSS coordinator at St Anthony's School said that parents had commented about how their children tell them about what can be recycled and about not putting soft plastics in the bin. Parents from Oakwood Primary School also indicated students remind them to recycle.
- Students have been sharing waste and sustainability-related information they learned at school with their parents. For example, students from South East Metropolitan Language Development Centre have educated their parents on why battery recycling is important.
- Schools like North Woodvale Primary School have encouraged parents to start small-scale composting and worm farms at home.
- Students have been asking parents to buy in bulk to avoid buying small packets/tubs of food. This extended to students encouraging parents to buy reusable containers for use in school lunches.
- Students were bringing in containers and other recyclable items for recycling at schools. For example, John Curtin College of the Arts has received about 200 kg of batteries, toothbrushes and mobile phones each year that students have brought in from home.
- Some students at Carine Senior High School have encouraged their family to become 'plastic-free households'.
- Students have encouraged their parents to recycle new items such as soft plastics.



## Parents' voices

The following quotes from parents of children attending Hillcrest Primary School provide another perspective on the WSS program.

“Before coming to Hillcrest, I had never really paid too much attention to recycling the little things. The bread ties, the batteries and the ring pills have all become a fun thing to collect. With the ring pulls even benefiting Wheelchairs for Kids. It’s a great cycle.”

**Samantha Edwards (P&C member)**

“We feel that the waste wise activities at Hillcrest are a key area of learning for the kids. It’s great that the school places so much emphasis on this important area.”

**Sally Bags**

“As a new parent considering schools, the Waste Wise approach was one of the things that attracted me to Hillcrest. I love that waste wise lunches are encouraged so that my kindy kid doesn’t feel ‘weird’ with hers, and I’ve also noticed how tidy the school grounds are without errant wrappers blowing away.”

**Georgina Ker**

“I love that the whole school has a system for composting food scraps and returning them to the garden and the chooks. It’s also great to have a sustainability expert in the house who can give us ideas on how to reduce, reuse and recycle.”

**Bronwyn Wallis**





## Students' voices

Often the voice of students is difficult to collect and bring forward in an analysis of the WSS Program data. Below are a few extracts from Eden Hill Primary School's year six graduation books that help present their story.

"Being a Planet Protector has been one of my favourite things I've done all year. The best part of being a Planet Protector was so much fun we had while doing the jobs. The other Planet Protectors were fun and easy to work with. I loved going down to the chicken coop and seeing the cute chickens."

**Isabelle**

"Being a Planet Protector taught me how important it is to help the world and take climate change action. The best part of being a Planet Protector was doing the chickens and bins. The chickens are definitely cute."

**Cara**

"As a Planet Protector I got to do lots of fun and memorable things. I got to take care of the chickens and the worm farms. I loved being a Planet Protector and I would definitely recommend it to someone who likes caring for animals."

**Will**

## Whole-of-school approach

Examples of the whole-of-school approach being demonstrated at participation schools:

- Schools have shared WSS news at school assembly, with students sometimes presenting.
- Schools have encouraged participation across all grade levels through incentives and awards, like the 'Nude Food Champions' award at Dalmain Primary School.
- Positive recycling practices have been facilitated through paper/cardboard, comingled and/or organic waste bins in each classroom and staff room. For example, at John Curtin College of the Arts, there are paper recycling bins in all 95 classrooms and 25 offices.
- School children were involved in WSS activities, with 'green team' representatives from all year levels. For example, Koorda Primary School has students from all year levels engaging in recycling, worm farming and composting, and in in-class waste reduction activities.
- Staff and P&C members were involved in WSS activities, which included embedding WSS-related content into the curriculum where possible. For example, waste reuse was discussed and practised in arts and science classes at Notre Dame Catholic Primary School.
- The fundraising potential of the Containers for Change program has helped mobilise P&C involvement in recycling at school, which was evident at Kinross College.
- WSS activities were integrated into other programs such as Crunch&Sip.
- Schools have been implementing school-wide waste-free/nude food days.
- At some schools, there was school-wide participation in incursions activities from WSS and Suez.
- Schools were also engaging in other sustainability programs such as Waterwise, Plastic Free July and Clean Up Australia Day.
- WSS initiatives were being integrated in school plans and policies, as demonstrated by Hillcrest Primary School and Booragoon Primary School which both embedded their sustainability initiatives in their school business plan and syllabus.
- Beeswax wraps were promoted across schools to eliminate soft plastic waste.

Although the examples presented have changed, the themes and activities reported are very similar to the previous year.

# WasteSorted Schools

[www.wastesortedschools.wa.gov.au](http://www.wastesortedschools.wa.gov.au)

