

Household Hazardous Waste Program

Annual Report 2014-15



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Acknowledgements

The Household Hazardous Waste (HHW) Program would like to acknowledge all of the organisations and individuals who have contributed to the success of the fourth year of the 2011-16 Program. WALGA administers the HHW Program on behalf of the Waste Authority.

Thank you to the Local Governments and Regional Councils who manage the Permanent facilities throughout WA for providing the staff and facilities to handle and store HHW.

Thank you to Toxfree who have delivered a highly professional collection and disposal service over the past year.

Thank you to the Minister for Environment (State Government), the Waste Authority and the Department of Environment Regulation for their ongoing support of the Household Hazardous Waste Program.

The HHW Program is funded by the Waste Authority through the Waste Avoidance and Resource Recovery Account.

Executive Summary

In the 2014-15 financial year a total of 656,274kg of HHW was collected through the Program from Permanent facilities. The total Program expenditure for 2014-15 was \$2,194,992*, this represents an expenditure of 84.49% of the Program budget. Paint (water and solvent based) made up 63% of material collected.

General Program expenditure was:

- 85.5% of the total cost was for collection, testing, treatment and disposal of material from HHW Permanent facilities:
 - 74.1% in the Metropolitan area
 - 11.4% from the Non Metropolitan area
- 7.9% of the expenditure was on HHW Infrastructure
- 6.2% of the total cost was WALGA administration
- 0.3% of the total cost was spent on Temporary Collection Days (TCDs) (from TCD activities that were undertaken in previous financial years but were paid in this financial year)
- 0.1% was spent on HHW Permanent facility operator training
- Less than 0.1% was spent on overall Program promotion.

*All figures in this Report are exclusive of GST, there may be some minor discrepancies between figures due to numbers in the report being rounded.

1. Types and Quantities of HHW Collected

The HHW Program funds the collection and recycling/disposal of hazardous materials from residential sources. Material from commercial, industrial, agricultural or veterinary sources is not covered, nor are materials covered by other Government collection Programs. Householders can go any of the HHW Permanent facilities and drop off any of the following products:

- Acids (NOTE: some Permanent facilities do not accept hydrofluoric acid)
- Aerosols (CFC based, paints, lacquers, pesticides etc.)
- Alkalis
- Batteries (household)
- Compact fluorescent lamps and fluorescent tubes
- Cyanides
- Engine coolants and glycols
- Fire extinguishers (non-halon only)
- Flammable liquids (e.g. hydrocarbons and fuels)
- Flammable solids
- Flares
- Gas cylinders
- General household chemicals (e.g. cleaning products)
- Heavy metal compounds
- Inorganic oxidising agents (e.g. pool chlorine)
- Low level radioactive substances (e.g. smoke detectors)
- Mercury (e.g. thermometers)
- Organic peroxides
- Paint
- PCB materials
- Pesticides (including Schedule X pesticides)
- Solvents

In the 2014-15 financial year a total of 656,274kg of HHW was collected through the Program from Permanent facilities. The largest amounts of material collected were Paint – water based 49%, Paint – solvent based 14%, Gas cylinders - propane 12% and Batteries 9%. In the 2014-15 financial year, Paint (water and solvent based) made up 63% of the material collected. Figure 1 gives a detailed breakdown of the amount of material collected by weight and Figure 2 shows the disposal cost of the material collected.

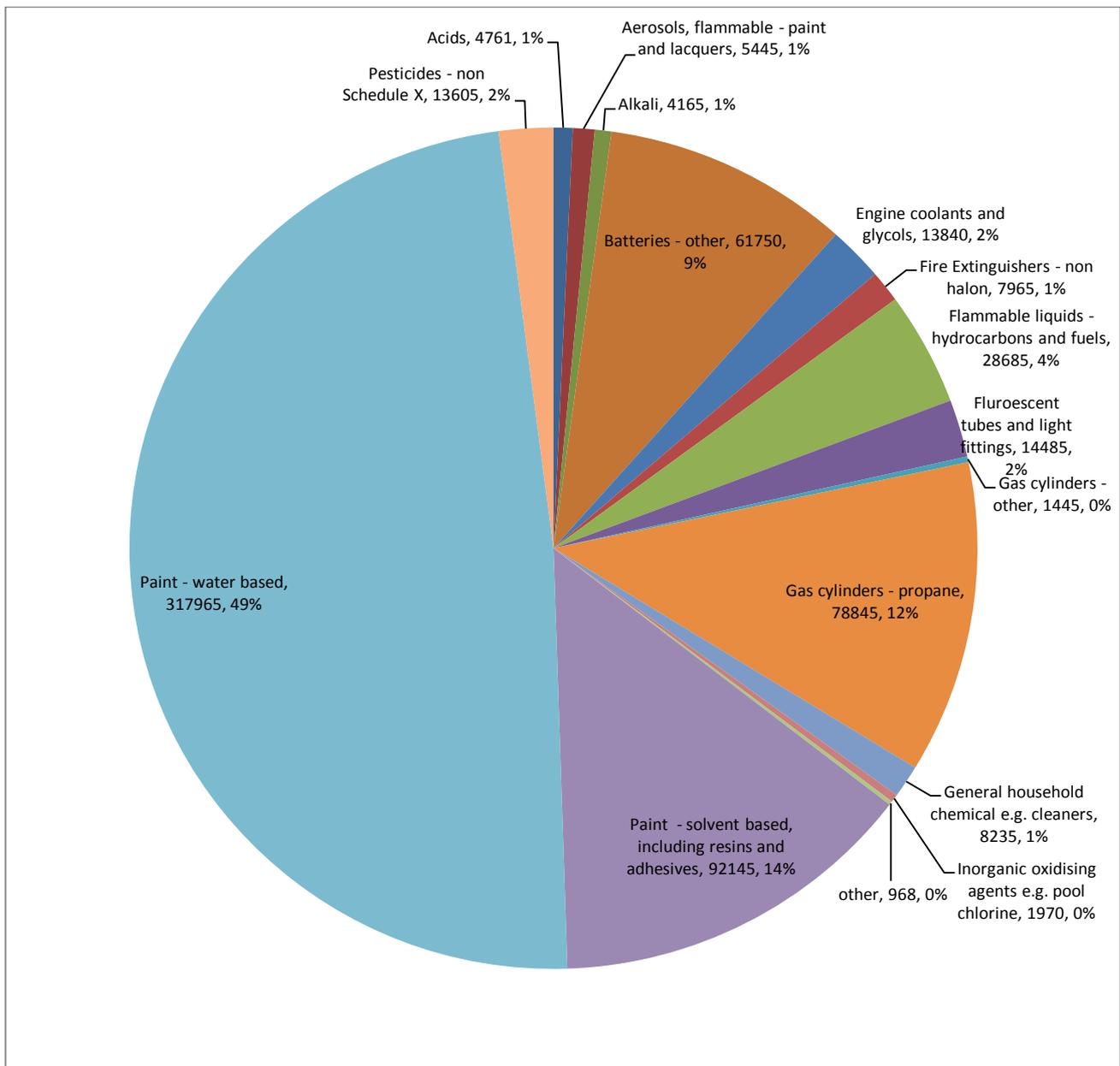


Figure 1: Amount of HHW collected (by weight) in the 2014-15 financial year.

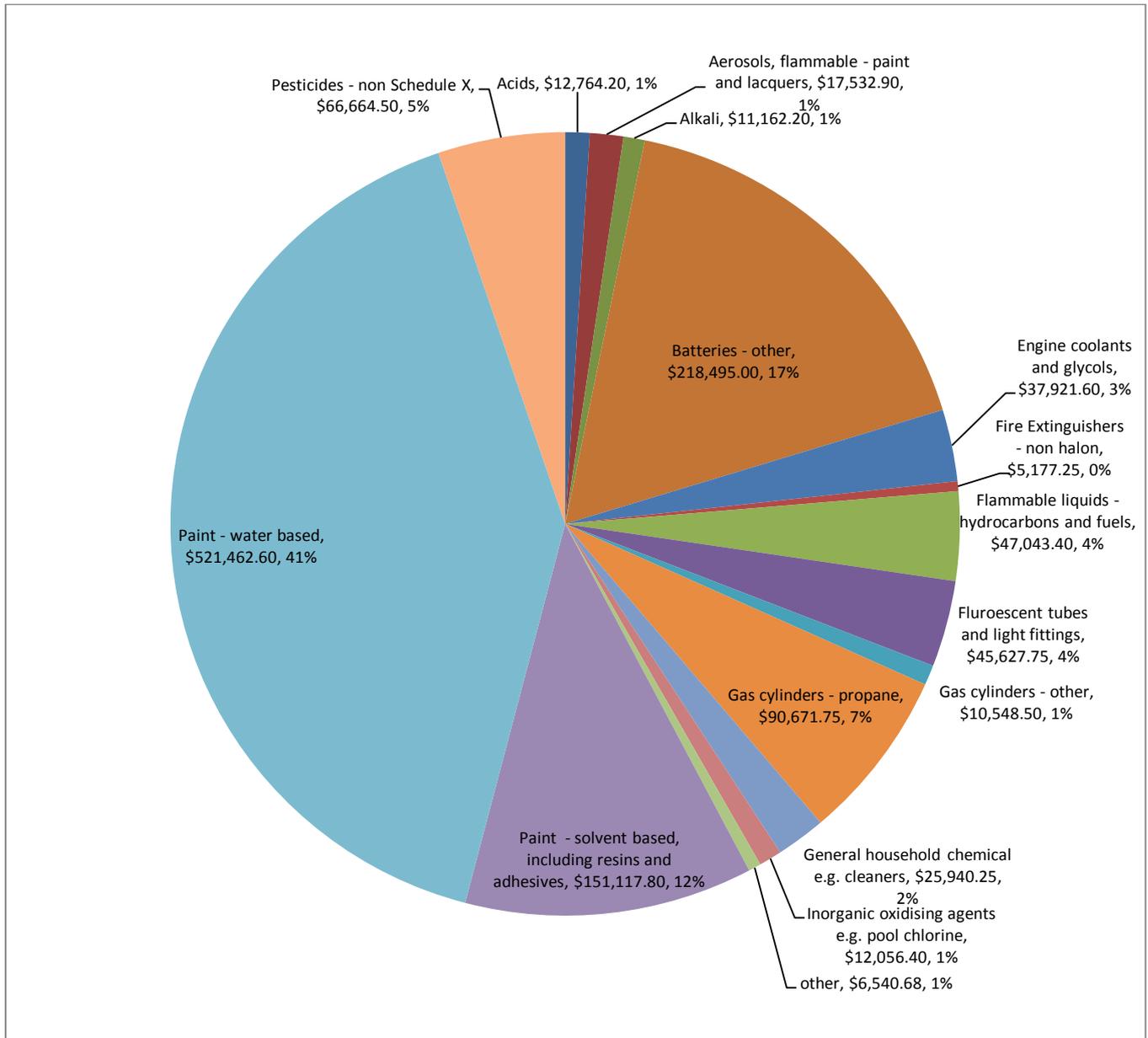


Figure 2: Costs of HHW disposal for the 2014-15 financial year.

2. Program Budget

In the 2014-15 financial year, the total Program expenditure was \$2,194,992; this represents 84.49% of the Program budget. The distribution of this expenditure was:

- 85.5% of the total cost was for collection, testing, treatment and disposal of material from HHW Permanent facilities:
 - 74.1% in the Metropolitan area
 - 11.4% from the Non Metropolitan area
- 7.9% of the expenditure was on HHW Infrastructure
- 6.2% of the total cost was WALGA administration
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- 0.1% was spent on HHW Permanent facility operator training
- Less than 0.1% was spent on overall Program promotion.

3. Permanent Facilities

The Permanent facilities are located at Regional Council/Local Government landfills or transfer stations, and provide locations for householders to drop off HHW. All WA householders can dispose of HHW at the Permanent facilities, not just residents of the Local Government/Regional Council which hosts the facility.

The Permanent facilities are managed and staffed by Local Governments and Regional Councils, and the HHW Program provides funding for the recycling/disposal of the HHW collected. The Permanent facilities have an area where the public can drop off their unwanted HHW and a storage area, where the HHW is sorted into categories and stored until the facility is emptied. Figures 3 and 4 show examples for Permanent facilities operated by the Bunbury-Harvey Regional Council and the Shire of Toodyay.

HHW Program funding covers the cost of HHW recycling/disposal at 13 Permanent facilities across Western Australia. The Permanent facilities currently participating in the HHW Program are:

Metropolitan HHW facilities:

- Armadale Landfill and Recycling Facility (City of Armadale)
- Canning Waste Transfer Station (City of Canning)
- Henderson Waste Recovery Park (City of Cockburn)
- JRF (Jim) McGeough Resource Recovery Facility (Western Metropolitan Regional Council)
- Millar Road Landfill Facility (City of Rockingham)
- Recycling Centre Balcatta (City of Stirling)
- Red Hill Waste Management Facility (Eastern Metropolitan Regional Council)
- Tamala Park Waste Disposal Facility (Mandarie Regional Council)

Non-Metropolitan HHW facilities:

- Hanrahan Road Waste Minimisation Facility (City of Albany)
- Mandurah Waste Management Centre (City of Mandurah)
- Meru Waste Disposal Facility (City of Greater Geraldton)
- Railway Road Transfer Station (Shire of Toodyay)
- Stanley Road Waste Management Facility (Bunbury-Harvey Regional Council)



Figure 3: Bunbury Harvey Regional Council HHW storage facility at the Stanley Road Waste Management Facility.



Figure 4: Shire of Toodyay HHW storage facility at the Railway Road Transfer Station.

During this financial year, all collections were made from Permanent facilities, with 656,274kg of HHW being collected. The largest amounts of material collected were Paint – water based 49%, Paint – solvent based 14%, Gas cylinders - propane 12% and Batteries 9%. Figure 5 is a graphical comparison of the amounts of material collected by each facility.

Local Governments and Regional Councils contribute to the costs of the Program, through staffing, managing, promoting and improving the Permanent facilities. Figure 6 shows a breakdown of the various expenditure areas for these contributions.

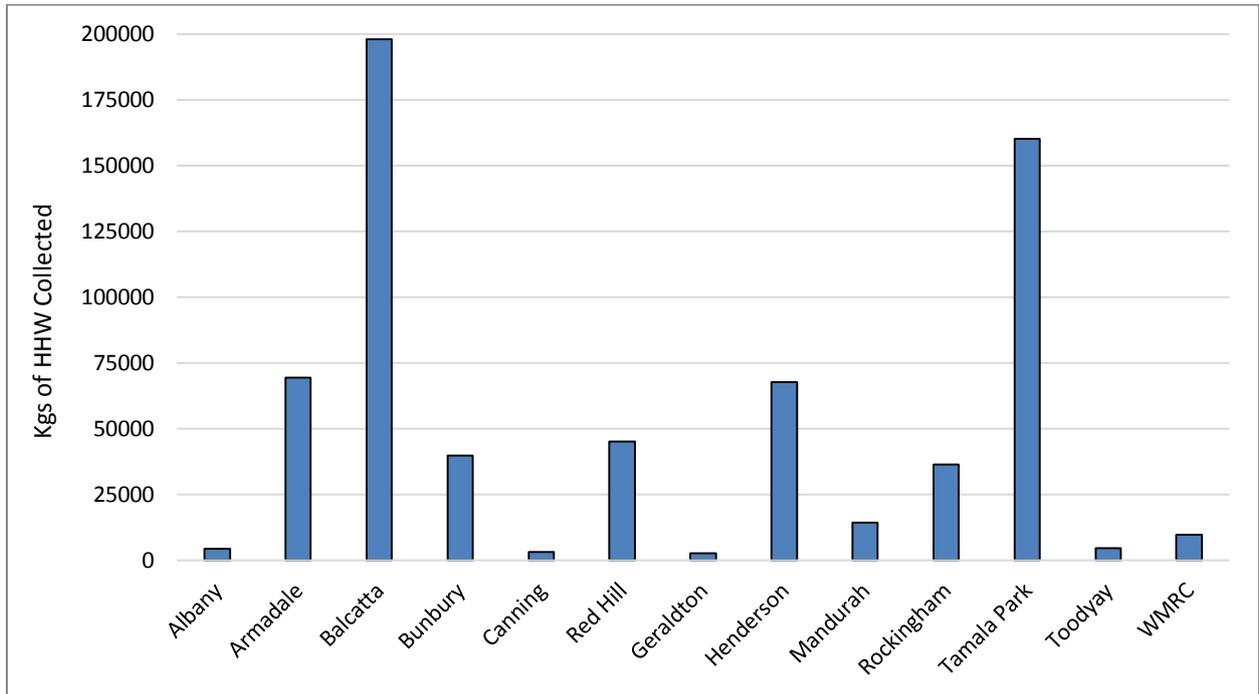


Figure 5: Comparison of amount of HHW (by weight) collected by Permanent facilities in 2014-15.

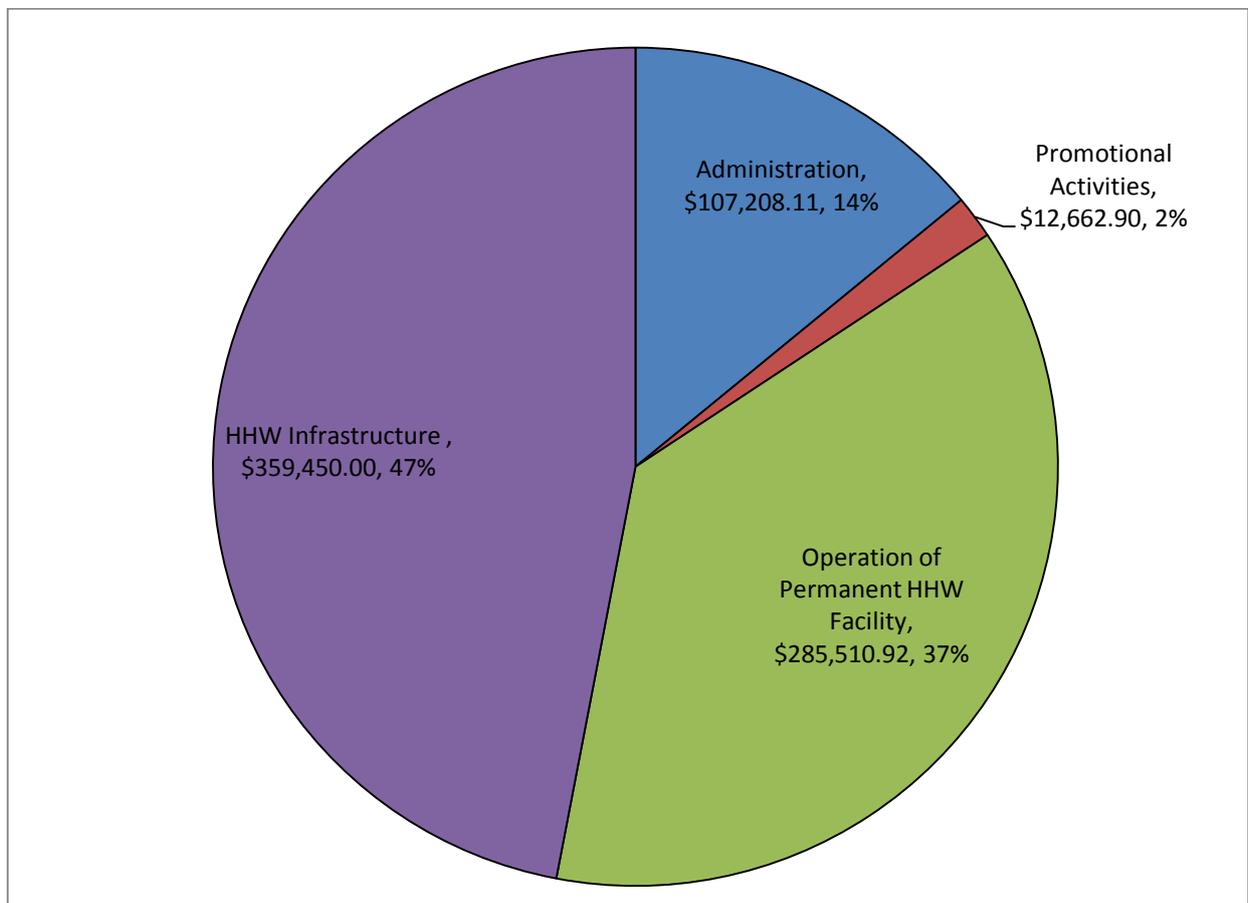


Figure 6: Local Government co-contribution expenditure for 2014-15 by activity area.

4. Temporary Collection Days

No temporary collection days were held in the 2014/15 financial year due to budget constraints.

5. Disposal & Treatment Routes

The material collected through the HHW Program is reused/ recycled/ treated or disposed of. The majority of HHW is diverted from landfill through current disposal methods. Smoke detectors containing Americium, a radioactive substance, are the only single stream of HHW material that is sent directly to landfill (once encapsulated in concrete).

HHW collected from Permanent facilities or TCD's are taken to the Toxfree facility in Kwinana. The treatment and disposal of the HHW is dependent on the type of material collected. For example:

- Solvent based paint and hydrocarbons are used as an alternative fuel source for cement and brick kilns.
- Materials such as acids, cyanides, and inorganic oxidising agents are recycled by Toxfree to process other waste materials. Acids and inorganic oxidising agents that cannot be used by Toxfree are fixated and neutralised, and sent to landfill as solid waste.
- Flares are sent to an explosives expert via Toxfree. Explosives experts disarm the flares and the materials are recycled.

6. Other Activities

6.1 HHW Program Extension

The Waste Authority extended the current Program for one year, allowing a budget of \$2.6M for the 2015/16 financial year.

6.2 Permanent Facility Audits

Twelve of the Permanent facilities were assessed against the '*Guidelines for the Design and Operation of Facilities for the Acceptance and Storage of Household Hazardous Waste*' (the Guidelines), with the results compared to the audits undertaken in 2012/13. All facilities that were originally assessed in 2012/13 showed improved results in 2014/15. This is due to the many improvements facility staff have made to the processes and procedures relating to the acceptance and storage of HHW, as well as the range of infrastructure upgrades which have been put into place since the first assessments.

6.3 Infrastructure Upgrades

Based on the recommendation from the facility audits, \$173,733 was spent on providing infrastructure upgrades to twelve of the Permanent facilities. The facilities received a range of infrastructure including:

- Flare and dangerous goods cabinets to all facilities that had insufficient storage for flares and Class 5 hazardous materials
- Fire alarm systems for five of the facilities
- Safety and hazard signage
- Shelving upgrades to three of the facilities due to their existing shelving not being chemical resistant and was unsuitable for the safe storage of hazardous chemicals (see Figure 7 for an example of the new shelving).



Figure 7: Tamala Park shelving upgrade.

6.4 HHW Survey

WALGA completed a phone survey of 400 residents in WA (78% Metro, 22% Non-metro) to gather information on the level of understanding the public have of HHW. The survey asked questions about HHW storage, disposal, willingness to dispose of HHW correctly and how we could improve public participation in the HHW Program. Some of the information gathered from the survey includes:

- 40-45% of respondents are using the HHW Program (through Permanent facilities or at TCDs) to dispose of their unknown chemicals, acids, alkalis and garden chemicals, as are 29-39% of people for their fluoros, fire extinguishers, general household cleaners, oxidisers, gas cylinders, aerosols, flammables and paint. These figures are for direct HHW Program usage and do not take into account any disposals at specific material drop-off locations such as battery or fluoros bins in public locations.
- 48% of respondents were aware of HHW collection facilities and had used them. Most advised they use them either once or twice a year.
- 48% of respondents were willing to travel 15-20 minutes to correctly dispose of their HHW.
- 72% of people seek information on HHW disposal from their Local Governments via their website, office, local waste management facility or through the information on waste services sent out by their Local Governments annually.

The baseline information gained from the survey provides a snapshot of HHW in WA homes and can be used to identify areas where new Permanent facilities may need to be established in the future, as well as influence areas of focus for future promotional and educational programs.

6.5 Battery Bin Survey

WALGA conducted an investigation to find where public access battery bin drop-off locations in the metropolitan area are currently located and the amount of batteries being collected in each Regional Council area. A compiled list of public access battery bin locations was provided to Planet Ark and has been added to their RecyclingNearYou interactive search website.

6.6 Training

In the 2014/15 financial year one HHW chemical training day was held on the 4 December 2014 at the City of Stirling, with training provided from ERGT trainers. The session was attended by 12 people who are HHW operators from various HHW facilities, as well as a WALGA and Toxfree representative.

WALGA identified some deficiencies in the content and relevance of the current training, so new, more Program specific HHW training is being developed which will look to be rolled out in the 2015/16 financial year.

6.7 Product Stewardship – Paint and Batteries

WALGA is actively contributing to the development of the national Paint and Battery Product Stewardship Schemes; with a representative on the Paint Stakeholder Reference Group and the Battery Working Group. This contribution includes the provision of information on tonnages of material collected and costs to the Program, using operational expertise to inform the design of the Schemes and drawing on experience with the roll out/operation of other Product Stewardship schemes.

The Paint Scheme development seems to be progressing well, with the industry actively and constructively involved, with formal consultation underway, with the target date for the launch of the Scheme May 2016.

The Battery Product Stewardship Scheme has had limited progress at this stage, as two of the major battery companies have indicated they do not favour a voluntary approach to Product Stewardship and are only interested in a scheme which covers rechargeable batteries.

The data gathering and modelling exercises that have taken place as part of the development of both Schemes are beneficial to the HHW Program, as they assist in benchmarking current performance, with regard to recovery rates. For example the work undertaken on paint indicates that of paint sold, 6.1% is 'available for recycling/waste paint'. Based on the amount collected in 2014/15 we are currently recovering approximately 35.2% of the paint available to collect.