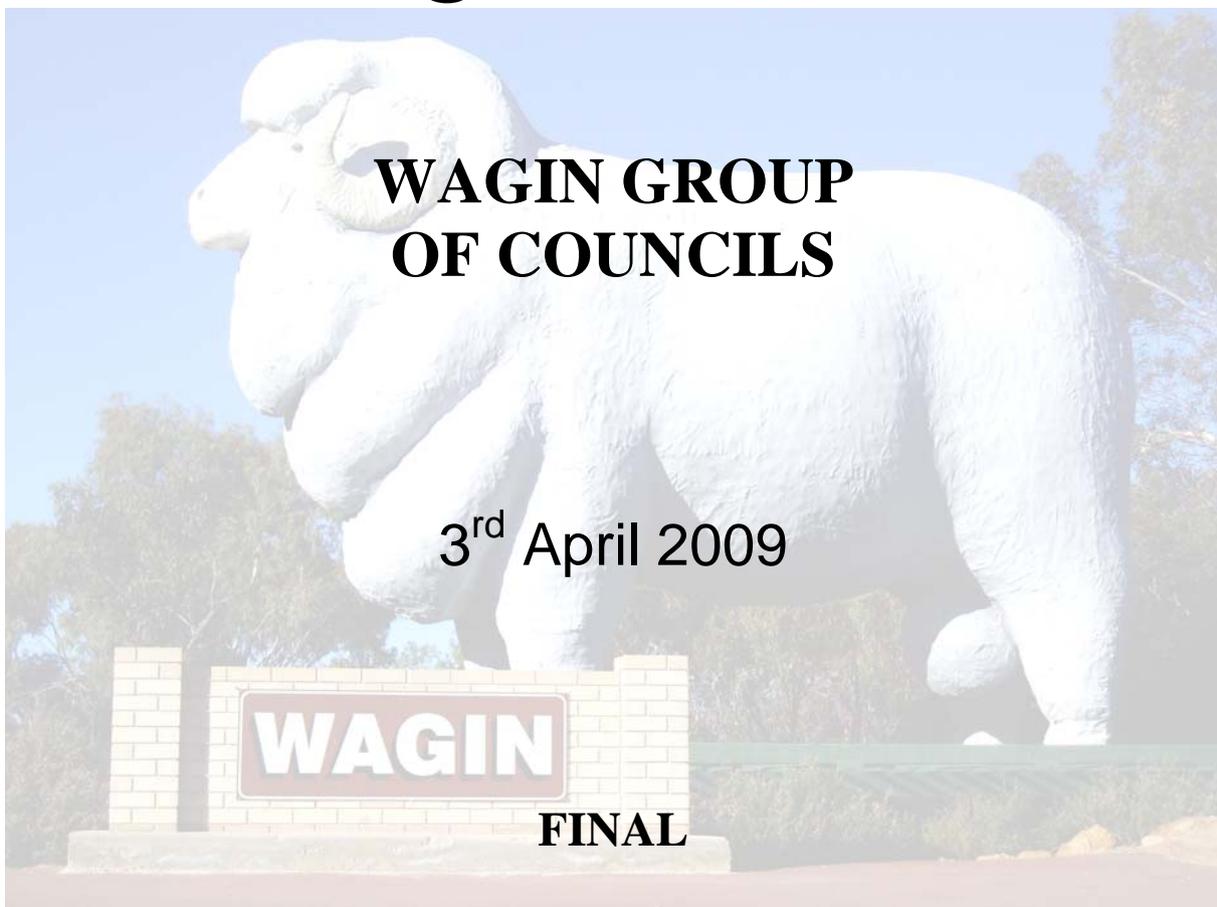


Strategic Waste Management Plan



PREPARED BY

Bowman & Associates Pty Ltd in consultation with the Wagin Group of Councils consisting of the Shires of West Arthur, Woodanilling, Wagin, Narrogin, Williams, Cuballing, Pingelly, Wandering, Wickepin, Lake Grace and Dumbleyung and the Town of Narrogin.

EXECUTIVE SUMMARY

The Wagin Group Strategic Waste Management Plan (Plan) has been developed in alignment with the Waste Authority of Western Australia's Zero Waste Plan Development Scheme. The purpose of this Plan is to provide strategies and actions to guide the Local Governments and communities of the Wagin Group to improve waste management practices consistent with the State's vision of *Towards Zero Waste* in order to protect human health and the environment.

The process undertaken was to appoint Bowman & Associates to conduct face to face meetings with Council officers and to assess every landfill in the region. In total 21 landfills were inspected across the region and several prospective new sites visited.

With a total population of 14,139, the total waste generated across the region, including commercial and building construction waste is estimated at 27,000 Tonne per annum. The largest landfill in the region is in Narrogin, accepting around 9,000 Tonne per annum followed by Wagin at 3,600 Tonne per annum.

There is no doubt that the local communities view their local landfill as an important facility and to remove the availability of this service will create resident uproar. A far better option is to improve the environmental compliance, overall management, security and waste reduction initiatives in order to enhance the performance of the existing landfills.

It is recommended, however, that the environmental management of three (3) environmentally sensitive landfills be addressed. These landfills are Varley, Wagin and Tincurrin. The Shire of Lake Grace has commenced the process of establishing a new landfill site for Newdegate.

Communities within the Wagin Group, like communities in other locations, want to recycle but require a user friendly recycling service to be able to do so. Recycling is a purely voluntary action undertaken by residents who require surety that their efforts are contributing to the recycling of materials and that separated recyclables do not merely end up in landfill.

There is no doubt that the success of appropriate landfill management, waste reduction and recycling initiatives is dependent on the devotion of individual Council staff. Without the personal support of the current programmes by these individuals the programmes are not likely to remain successful. To make resource recovery sustainable for the long term the Wagin Group needs to promote new initiatives, educate the communities and engage all Council staff in the programmes. The paradigm shift required will begin in schools, sporting facilities, community facilities, Council buildings and workplaces.

Council employees will be the facilitators of this paradigm shift by introducing recycling initiatives to Council workplaces and facilities, introducing kerbside Mobile Garbage Bin (MGB) recycling to every residential property, increasing the recycling drop off opportunities for rural residents, improving the aesthetics and underlying environmental compliance of landfills and most importantly communicating to the residents the performance of the waste avoidance and resource recovery programmes. Communication with residents will play a significant role in the successful implementation of the Plan.

The recommendations and resource recovery opportunities identified during the preparation of this Plan will need a champion. The cooperation of the twelve Wagin Group Councils in getting this far is only the first step. To embrace the recommendations of the Plan and to secure the outcomes will not only require ongoing collaboration but will also require a dedicated officer to secure the outcomes on a regional basis. The officer could be a part time or full time employee who may either work for a new Wagin Group identity, be seconded from a Wagin Group Council or be a Consultant providing specialist services.

To adopt the Plan the capital required over the five (5) year period will be in the order of \$7.0Million. With the imposition of tip fees at manned landfills, increases in waste charges to reflect the costs of service improvements, charging rural residents a modest garbage charge for use of landfills and drop off facilities, government funding, private investment and capital borrowings the implementation of the Plan could be feasible.

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1 ACRONYMS

ABS	Australian Bureau of Statistics
AWT	Alternative Waste Treatment
Avon	Avon Waste
C&D	Construction and Demolition
CDS	Container Deposit Scheme
CEO	Chief Executive Officer
C&I	Commercial and Industrial
DoE	Department of Environment (Now DEC)
DEC	Department of Environment and Conservation
EPR	Extended Producer Responsibility
E-waste	Electrical and Electronic Waste
GHG	Greenhouse Gas
GSWD	Great Southern Waste Disposal
GW	Green Waste
HDPE	High-density Polyethylene
HHW	Household Hazardous Waste
HW	Hard Waste
KAB	Keep Australia Beautiful WA
LDPE	Low-density Polyethylene
MGB	Mobile Garbage Bin
MSW	Municipal Solid Waste
MRF	Materials Recovery Facility
MWAC	Municipal Waste Advisory Council
RCRB	Recycled Concrete Road Base
SMRC	Southern Metropolitan Regional Council
SWMP	Strategic Waste Management Plan
WALGA	Western Australia Local Government Association
WARR	Waste Avoidance and Resource Recovery
WARRL	Waste Avoidance and Resource Recovery Levy
WBWS	Warren Blackwood Waste Services
Authority	Waste Authority
WMB	Waste Management Board (precursor of Authority)
WMP	Waste Management Plan
WMRC	Western Metropolitan Regional Council

2 DISCLAIMER

The content contained herewith has been compiled in good faith using normal industry practices employed by Environmental Engineers and Waste Management Consultants in the preparation of reports. Bowman & Associates Pty Ltd accepts no liability for loss or damages incurred by the Shire of Wagin, the Wagin Group of Councils or any other individual or organisation due to reliance on the included content.

3 VISION, GOALS, PURPOSE AND OBJECTIVES

3.1 VISION

The State Governments vision for waste management is to work “Towards Zero Waste”.

3.2 TOWARDS ZERO WASTE

The Zero Waste Plan Development Scheme is an initiative of the Waste Authority of Western Australia and developed in partnership with the Western Australian Local Government Association and local governments across Western Australia.

Any local government or constituted regional local government wishing to access funding under the Zero Waste Plan Development Scheme is required to complete and submit a Strategic Waste Management Plan (Plan) in accordance with the Ministerial Conditions published in the Government Gazette on 28 September 2007.

The Plans are intended to enable local governments to commence or improve existing strategies for the achievement of best practice municipal waste management in alignment with the State’s vision of *Towards Zero Waste* over the next five years (2008-2012).

The Plan will reflect the current and future level of waste management services provided by each of the local governments involved in the formulation of the Plan.

3.3 GOALS

The goals of the Plan are to:

- Minimise of the direct and indirect environmental impacts of waste and its management in the region over the next five years.
- Manage waste in a sustainable manner.
- Increase community awareness of the impact of waste issues on the environment.

3.4 PURPOSE AND OBJECTIVES

- To protect human health and the environment
- To confirm current waste infrastructure and levels of service
- To identify priority actions and associated costs and timelines to incrementally improve waste management within the local government area(s) covered by the plan
- To form partnerships with other local governments, business and industry to achieve economies of scale where feasible
- To increase community awareness, appreciation and responsiveness to waste related issues
- To assign actions, costs and timelines
- To define a performance monitoring and review schedule

4 EXISTING WASTE SERVICES AND INFRASTRUCTURE

4.1 MAP OF LOCAL GOVERNMENT MEMBERSHIP



4.2 WASTE CONTRACTOR SERVICES SUMMARY

No.	Council	Waste Services	Recycling Services	Landfill Services
1	Lake Grace	GSWD (4 towns)	WBWS (2 towns)	Council
2	Dumbleyung	GSWD exp 2009	WBWS exp 1012	Council
3	Wagin	GSWD		Council
4	Woodanilling	GSWD		Council
5	West Arthur	GSWD exp 2011		Council
6	Williams	Avon exp 2009		Council
7	Narrogin (T)	GSWD exp 2008		GSWD
8	Narrogin (S)	GSWD		
9	Wickepin	Council		Council
10	Cuballing			Council & GSWD
11	Pingelly	GSWD exp 2009	GSWD	Council
12	Wandering	Avon exp 2009	Avon exp 2009	Council

Notes:

- GSWD - Great Southern Waste Disposal
- WBWS – Warren Blackwood Waste Services
- Avon – Avon Waste
- Most Councils provide a drop off facility for recyclables

4.3 MEMBER COUNCILS

In order to maintain continuity with the Phase 1 data prepared for the DEC in 2007 population statistics have been compiled using the Bureau of Statistics data from the 2006 Quick Stats. The population statistics used may vary slightly from those used by Councils.

4.3.1 SHIRE OF LAKE GRACE

The Shire of Lake Grace covers an area of 10,747Kms² and is located 354Kms out of Perth. The local industries operating in the area are cereal grain production, livestock production and gypsum mining. The Council is made up of the towns of Lake Grace, Lake King, Newdegate and Varley.

The Shire is populated by 1,456 people and contains 791 dwellings that are occupied by the 407 families in the area.

Lake Grace has 307 residences, Newdegate has 100 residences, Lake King has 40 residences and Varley has 20 residences. The remainder of the dwellings in the Shire relate to rural farms.

The Council through its waste contractors provides a weekly garbage collection service to the four towns and a fortnightly kerbside recycling service to the two main towns of Lake Grace and Newdegate.

The two waste services companies operating in the region are Warren Blackwood Waste providing recycling services and Great Southern Waste Disposal providing waste services. Great Southern Waste Disposal currently transports Newdegate's municipal waste to the Lake King Landfill.

The recycling service provided by Warren Blackwood Waste is reported to be under utilised with low volumes of recyclables being collected per residence. The Shire experiences resistance from the commercial sectors in Lake Grace and Newdegate to participate in recycling.

Each town has its own Council run landfill registered by the DEC as rural landfills. The Shire is under pressure from the DEC to close the landfill at Newdegate due to environmental concerns.

The process to establish a new landfill site for Newdegate has commenced. Both the Newdegate and Varley landfills are in very close proximity to lakes creating a high risk of contamination to the lakes from wind blown litter and other waste disposal vectors.

In February 2007 the Shire of Lake Grace appointed SMEC to undertake an investigation into waste management options available to the Shire. The report, *Shire of Lake Grace Waste Management Options (February 2007)* concluded that all four landfills were not operated in accordance with the *Environmental Protection (Rural Landfill) Regulations 2002*. The Shire acknowledged in the report that it suffers from a lack of staffing and resources to effectively manage the four landfill sites.

The report investigates four options for the future management of waste in the region. Option 4 relates to the closure of the two environmentally sensitive landfills at Newdegate and Varley and to replace them with purpose built transfer stations. The waste would be transported to either the Lake King landfill or the Lake Grace landfill. The Council has resolved not to construct transfer stations.

In March 2008 the Shire of Lake Grace met with the DEC and it was agreed that a short term licence would be issued for the operation of Newdegate landfill providing the Shire commenced the process of relocating the landfill to another site. The Shire has identified a site being portion of Roe location 116 approximately five (5) kilometres from the Newdegate town-site. The land owner has agreed to allow access to the site to enable the site investigation process to commence.

4.3.2 SHIRE OF DUMBLEYUNG

The Shire of Dumbleyung comprises the towns of Kukerin, Dumbleyung and Moulyinning covering an area of around 2,553 square kilometres. The Shire is populated by 632 people and is 267Kms from Perth. The local industries in the region are grain crops, sheep, wool, cattle, agricultural machinery and aquaculture. Located within the Shire are 354 private dwellings and 187 families.

The town centre of Dumbleyung has 140 houses, Kukerin 25 and Moulyinning has 3 houses. The balance of the population resides in homesteads on rural properties. These rural homesteads bring recyclables to both Dumbleyung and Kukerin and place them in recycling bins located at the Shire halls. The Shire's recycling contractor, Warren Blackwood Waste Services, empties the bins during normal collections. All three towns are provided with a weekly garbage service provided by Great Southern Waste Disposal and a fortnightly recycling service provided by Warren Blackwood Waste Services. Great Southern Waste Disposal recently acquired the incumbent waste contractor business from Ted Pugh. The contract expires in July 2009 and Warren Blackwood Waste Services has a 5+5 year contract that commenced in October 2007.

The Dumbleyung and Kukerin Townships also receive one bulk verge collection per year for green waste and hard waste provided by the Shire.

A DrumMUSTER is conducted twice per year at both Dumbleyung and Kukerin.

The Shire operates two landfills, one at Kukerin and the other at Dumbleyung.

4.3.3 SHIRE OF WAGIN

The Shire of Wagin has a population of 1,846 people in an area of approximately 1,950Kms². The Shire has a total of 885 private dwellings. Wagin is the only town in the Shire. The number of families equate to 492. Within Wagin township there is a population of 1,598 and there are 753 dwellings.

Local events that attract tourists to the region include the Wagin Woolorama and Foundation Day celebrations. Local industries in the area include wool, grain, engineering manufacture, seed working and pet food production.

Waste collection services are provided by Great Southern Waste Disposal who provide a weekly garbage collection service to the town. There is no formal recycling service, although Great Southern Waste Disposal provide a free fortnightly kerbside recycling service to the town.

Residents place recyclables on the verge and these are collected using a light vehicle and taken to Narrogin for processing.

Waste disposal is at the Wagin landfill, which is located adjacent to a lake about 2 Kms south of town and has around 5 years of life left. The Shire of Wagin is about to commence the process of finding a new site for its landfill. The Shire is interested in hosting a regional landfill for the region and operating a larger landfill on a commercial basis.

The Wagin landfill is soon to be manned during operating hours. This will aid resource recovery and improve overall landfill management.

Cardboard is dominant on both the resident tipping face and the waste contractor tipping face. There is an opportunity to establish a cardboard recovery operation once the landfill is manned.

Wagin will soon relocate its DrumMUSTER depot from its works depot in town out to the landfill. This will make space available in the town to establish a recycling drop off centre.

The Shire provides its residents with two bulk verge collections per year.

4.3.4 SHIRE OF WOODANILLING

The Shire of Woodanilling is 252Kms from Perth with an area of 1,126Km². There is only one notable town in the Shire being Woodanilling. The local industries in the area include wool and grain.

The Shire has a population of 399, which includes 106 families residing in 185 private dwellings. Woodanilling waste contractor Great Southern Waste Disposal provides 61 weekly garbage services disposing the waste to the Shire's landfill located 2Kms south west of the town in Orchard Road. Shire staff collect waste from public litter bins around the Shire, which is disposed at the Shire's landfill.

There is no kerbside recycling service, however the Shire provides a bank of recycling bins at the landfill. Council staff transport recyclables to Warren Blackwood Waste Services in Katanning for processing.

4.3.5 SHIRE OF WEST ARTHUR

The Shire of West Arthur has a population of 890 in an area of approximately 2,850 square kilometres and is located 204Kms from the Perth CBD. The main settlements are Darkan and Duranillin. The Shire has 240 families residing in the area and comprises 467 dwellings.

The main local event that attracts tourists is the Australia Day Breakfast at Lake Townerinning. Industries that operate in the area include mixed farming, timber, metal fabrication and earth moving.

The Shire's waste contractor Great Southern Waste Disposal provides 122 residential and 72 commercial 240L MGB garbage services in Darkan. It also provides 20 240L MGB garbage collection services to Duranillin as well as occasional rural properties along the main roads. The contract with Great Southern Waste Disposal has recently expired and the Shire has agreed to extend the contract for three years.

Residents are offered an on demand bulk verge collection service for hard waste and green waste.

The company provides a monthly recycling verge collection in Darkan, however this has minimal participation. Recycling drop off sheds are located at the Shire depot in Darkan and the Shire halls in Duranillin and Arthur River. The contractor collects recyclables from these facilities monthly.

The Shire purchased a second hand mulching machine some years ago and mulches green waste from its parks and gardens activities and some residential green waste. Five years ago the Shire purchased a loader mounted tree pruner. Since then the Shire has not been able to shred all its road trimmings as the quantity produced from the loader mounted pruner has been too great for the capacity of the mulching machine.

The Shire has a small green waste drop off facility on the outskirts of Darkan where residents drop off green waste and can collect shredded greenwaste for domestic use. The Shire is experimenting with composting and intends to establish a permanent green waste processing facility adjacent to its Shire depot in Darkan.

The Shire would like to establish a 240L MGB recycling service and a resource recovery shed at the Darkan landfill.

The Shire has two landfills, one for Darkan and the other for Duranillin.

4.3.6 SHIRE OF WILLIAMS

The Shire of Williams has a population of 863 in an area of around 2,295 square kilometres and is 161Kms from Perth. The total number of families living in the area is 267 within the 451 private dwellings.

The Shire's main towns are Quindanning and Williams. The local industries that operate in the region are wool, coarse grains, grain pellets, hay processing and holiday farm stays.

Avon Waste provides garbage collection services to both towns and some rural properties along the main roads. Avon Waste has five year contracts with both the Shires of Boddington and Williams that both expire on 1st October 2009.

Williams's residents are provided the 295 services through the Shire of Williams, with waste going to the Williams landfill, while some rural properties and the 6 Quindanning properties are invoiced by the Shire of Boddington, with waste going to the Boddington landfill.

The Shire provides 2 bulk waste collections per year to the Williams residents for green and hard waste. The Shire is establishing a recyclable goods shed at the landfill, which will be utilised by residents that take recyclable material to the shed, along with the new landfill attendant retrieving recyclable goods from the waste stream.

Boddington Shire

The Shire of Boddington is not a member of the Wagin Group of Councils but has an interaction with the Shire of Williams with regard to the provision of waste services. The Shire of Boddington has a waste contract with Avon Waste, as does Williams and Wandering, for the 240L MGB garbage services. The Contract will expire on 1st October 2009. Boddington's expectation is that this relationship will continue past the contract term. Boddington has recently entered into a 5 year contract with Warren Blackwood Waste for the provision of recycling collection services. It may be possible for Williams to enter into an arrangement with Warren Blackwood Waste to provide recycling services to the residents in Quindanning.

Avon Waste collect recycling from bulk bins in two recycling drop off centres within the Shire of Williams, one at the Council Depot and one at the landfill.

4.3.7 TOWN OF NARROGIN

The population in the Town of Narrogin totals 4,238 in an area of 12.6 square kilometres and is situated 193Kms from the Perth CBD. The Town supports the one main settlement of Narrogin. The Town has 1,044 families residing in the area with 1,822 private dwellings.

The major local industries supported in the region include agricultural services, education, health and aged care services, timber milling, brick making, concrete, light engineering and cabinet making. The Rev Heads Motor Show is a significant local event attracting many tourists to the area.

The Town has a weekly kerbside waste collection service provided by Great Southern Waste Disposal who has ownership of the mobile garbage bins. The contractor provides 3,071 services of which 2,500 are residential with the balance provided to commercial properties. The contractor operates under a 6 month option under an expired contract. The contractor estimates that the

service collects in the order of 7,700 Tonnes of residential waste per annum, however this has not been verified.

4.3.8 SHIRE OF NARROGIN

The Shire of Narrogin is located 192Kms from the Perth CBD. It has an area of 1,618Kms² with the main settlement being at Highbury. The Shire has a population of 829 people residing in the 324 private dwellings in the region.

The local industries operating in the Narrogin region are farming, abattoirs, intensive piggeries, earthmoving, contracting, animal breeding and exporting hay. The number of families living in the Shire is 212. The tourist attractions include the Narrogin Agricultural Show and Narrogin Spring Festival.

Residential garbage services are provided by Great Southern Waste Disposal who also own the bins. The 167 weekly waste collections are conducted in the town of Highbury and participating rural properties en-route. Included in the 167 services are 60 services provided to the Agricultural College located 5Kms west of Narrogin. Waste is disposed at the Town of Narrogin's landfill located in White Road Narrogin.

The Shire's residents have free access to the Town of Narrogin's Landfill for waste disposal.

The Shire pays the Town of Narrogin a disposal fee equivalent to the difference between the Rates paid by the Town of Narrogin's residents for a garbage service and the collection cost paid to Great Southern Waste Disposal by the Shire of Narrogin for the provision of the waste service plus a general access fee of \$8,000 per annum.

4.3.9 SHIRE OF WICKEPIN

The Shire of Wickepin has a population of 716 and covers an area of approximately 1,989Kms². It is located 210Kms from the Perth CBD. The local industries operating in the area include farming, wheat, sheep, cattle and stud breeding. The Shire is made up of the towns of Harrismith, Tincurrin, Wickepin and Yealering.

The Wickepin Shire has 377 private dwellings occupied by the 206 families residing in the area.

The Shire provides landfills at each town, three of which are licenced with the DEC. The landfill at Tincurrin is not licenced.

The Shire provides an in house 240 Litre MGB garbage service to the 356 Wickepin residents, the 10 residents of Harrismith, the 100 residents at Yealering and the 14 residents at Tincurrin. The Shire utilises a single axle light truck fitted with a manual side lifter and body. The truck is aged, inefficient (manual side arm) and maybe due for replacement.

In total the Shire provides 188 waste services.

Each of the four towns has a centrally located recycling drop off shed. The three smaller towns being Yealering, Harrismith and Tincurrin have open fronted sheds housing 240L MGBs or similar containers for mixed recyclables and a pallet for bundled news print.

4.3.10 SHIRE OF CUBALLING

The Shire of Cuballing is located 192Kms from the Perth CBD and is populated by 779 people. The Shire has an area of 1,250Kms² and is made up of Cuballing and Popanyinning. The number of families living in the area is 224 in the 363 private dwellings available.

The local industries include engineering, timber products and mixed farming.

The Shire does not provide a kerbside waste service. About six years ago a survey was undertaken of the residents and it was indicated that the residents did not want a kerbside service. The recent Resident Questionnaire confirmed that a kerbside MGB waste service is not a priority, rather longer opening hours at the landfill is more important. To facilitate waste disposal the Shire provides landfills near each of the towns in the Shire. At both landfill sites the Shire provides

recycling drop off facilities, each serviced by different contractors. Great Southern Waste Disposal operates at Cuballing landfill and Avon Waste provides a bulk bin recycling service at Popanyinning Landfill.

Cuballing would consider the establishment of a green waste processing facility. The Shire has a green waste chipping machine.

It was commented that CBH Grain Handling is in the process of rationalising its grain bins with potential for some installations to be made redundant in the coming years. These facilities consist of large enclosed sheds and external grain retaining bunkers. These facilities could be utilised for both waste transfer stations and materials recycling facilities. CBH plans for the region should be considered but are not included as part of the Plan.

4.3.11 SHIRE OF PINGELLY

The Shire of Pingelly covers an area of 1,223Kms² and is located 158Kms from Perth. The Shire is the centre of the grain, harvesting, sheep, pig, cattle, emu, ostrich and yabbie farming industries. The population within the area is 1,168 people.

There are 541 private dwellings and 300 families in the Shire.

The Shire has a four year waste contract with Great Southern Waste Disposal which is due to expire in February 2009. The contract is for both waste and recycling services. The weekly waste service uses contractor owned 240L MGBs and includes 490 residential and 82 commercial services, totalling 572 services.

The fortnightly recycling service is a kerbside bag pickup, which is poorly supported. The Shire pays for 445 services but the contractor generally only collects 80 bags. The recyclables collected are restricted to glass, HDPE (milk bottles), newsprint and aluminium. Containers have to be washed with lids removed otherwise recyclables are rejected and left on the kerb. Great Southern Waste Disposal source separate recyclables at the kerb and the requirement to wash containers leads to a lack of support by residents.

The recycling contract includes the provision of a bank of nine recycling MGBs located near the railway line behind the town centre. The drop off centre is identified by a small sign and the bins provided by the contractor are dark grey (garbage colour) bins and in a very poor state of repair. Apart from the small sign and recycling message taped to the lids of the MGBs it is not recognisable as a recycling drop off location. There has been an effort by residents to source separate the recyclables into different bins for differing recyclables at the location.

The Shire has recently instigated several waste reduction initiatives and has purchased 5,000 green cotton shopping bags to distribute free of charge to local shoppers. The intention is to phase out plastic bags from the local shops.

The Shire has purchased an elephant foot press to bale cardboard. The intention is to set up a cardboard cage at the landfill site and the Shire staff press the cardboard into wool pack sized bales for transport to Perth. A local organisation called Townscape collect aluminium for fund raising. The Shire does not promote green initiatives such as Planet Ark or Mobile Muster at this stage.

Pingelly reconciles the real costs of providing a waste service and managing the landfill to ensure that waste management is cost recoverable. The Rates charge to residents for garbage services is the highest in the region and equates closely with that of metropolitan councils. The Rates to be charged for the 2008-09 year will be \$215.00 per waste service and \$10.00 per assessment, which is an Environmental Levy to cover the use of the landfill by all residents, including rural residents.

4.3.12 SHIRE OF WANDERING

The Shire of Wandering has an area of 1,955Kms² and is 120Kms from Perth. The total number of families living in the area is 103 within the 191 private dwellings. The population in the Shire is 355

people and the local industries include vineyards, cereal crops, sheep, cattle and timber mills. It is made up of the one town of Wandering including the Half Way Roadhouse located at North Bannister.

The Shire contracts its waste collection to Avon Waste under a contract due to expire in September 2009. The 58 services are for the weekly collection of the contractor owned garbage bins. The Shire is about to commence a recycling collection contract for 58 services with Avon Waste which is due to expire in September 2009 but has a five year option attached. The yellow topped 240L recycling bins are owned by the contractor. Within the recycling contract the contractor will provide a 4.5m³ front lift bin as a recycling drop off centre in the town precinct for use by rural residents.

4.4 LOCAL WASTE COMPANIES

4.4.1 GREAT SOUTHERN WASTE DISPOSAL

Great Southern Waste Disposal (ABN: 30 058 506 341) managed by Lindsay Sims and Kevin Timms provide waste services to twenty local governments in the region, several of these are in the Wagin Group. The company is based in Narrogin and carries out a recycling sorting operation at the Narrogin Landfill site. It also has an industrial building in Narrogin where sorting can be carried out.

Great Southern Waste Disposal recently acquired the waste collection service owned and operated by Ted Pugh. Ted's contracts extended from the Shire of Wagin out to the Shire of Lake Grace and include waste collection services to Varley located on the extreme eastern border of the Wagin Group. Through Ted's past activities Great Southern Waste Disposal provide ad hoc recycling collection services to several Shires in the region.

The company also provides landfill management services to the region and currently manages landfills on behalf of the Shires of Narrogin and Kojonup.

Great Southern Waste Disposal is keen to expand operations throughout the region and to provide additional recycling collection services to the Shires.

4.4.2 WARREN BLACKWOOD WASTE

Warren Blackwood Waste (ABN: 29 681 734 490), managed by Paul Webb, operate out of a head office in Manjimup. The company provides waste collection services to the southern region, which includes recycling services to the Shires of Lake Grace and Dumbleyung.

The company operates two materials recovery facilities, one in Katanning and the other in Manjimup. Discussions with Paul Webb suggest that the company is keen to expand operations north into other Wagin Group shires and is open to discussions on how the most appropriate cost effective waste and recycling services can be provided to the region.

Warren Blackwood Waste has recently submitted a proposal to the Town of Narrogin to establish a recycling service and materials recovery facility in Narrogin.

4.4.3 AVON WASTE

Avon Waste is based in York and managed by its two directors, Jeremy and Ashley Fisher. The company provides waste collection services to the Shires of Boddington, Williams and Wandering. In total the company provides waste services to 34 Councils in the region covering 54 towns of which 14 towns also receive a recycling service. Four Councils receive a bulk bin recycling service and the Shire of Williams is one of these councils. The Shire of Wandering is about to commence a kerbside 240L recycling service and a bulk recycling bin service with Avon Waste.

Avon Waste also provide bulk recycling services to the Shires of York, Popanyinning, Williams and Boddington, driving through Pingelly on the way and soon will be servicing Wandering. Avon Waste is keen to develop this commercial service for bulk recycling collection.

4.4.4 SIMS GROUP

Sims Group is one of two metal recycling companies providing steel collection services to regional WA. Nigel Drury, the company's Regional Recycling Manager advises that it collects metal, car bodies and fencing wire from rural landfill on the following conditions.

- Landfills have road train access.
- Waste is separated into
 - Car bodies
 - Light gauge metal
 - Fencing wire (excessive amount of timber posts can be burnt off)
 - Gas bottles

Sims Group generally use an excavator fitted with a log grab to load scrap onto road trains.

4.4.5 WREN OIL

Wren Oil operates a used oil recovery service across WA. Within most Shires exist used oil recovery tanks installed some time ago under a WA Local Government initiative.

In late 2007, due to an over supply of used oil on the world market, Wren Oil ceased collecting used oil. Wren Oil now advises that this problem has been overcome and it has resumed oil collections.

It has, however, become necessary for Wren Oil to impose a service fee of \$0.15 per litre (\$150/m³) for oil collected. It is the responsibility of Councils to contact Wren Oil and arrange a pick up. Wren Oil takes bookings and prepares a route once sufficient volume from a region is available to make a run economic. Wren Oil advises Council's to make a booking when the tank is $\frac{3}{4}$ full to ensure that the Council is visited at the next scheduled run. It is not the responsibility of Wren Oil to contact Councils. The standard used oil facility holds 4,000 Litres. Wren Oil will no longer pump out the used oil tank when passing as Councils must approve the service charge prior to the tank being serviced.

Wren Oil advised that on two occasions in recent month's oil tanks have been contaminated with paints, thinners and liquid wastes. This involved both a metropolitan Council and a country Council. Paint and other foreign liquid damage pumps and clog filters on the service truck. Problems are now experienced in both manned and unmanned landfills.

In comparison, used oil from motor repair shops and alike is never contaminated.

4.4.6 WA TYRE RECOVERY

WA Tyre Recovery is based in Albany and provides a tyre collection service to the Southwest and Great Southern regions. The company has the capacity to collect up to 750 passenger tyres per trip and transports the tyres to Albany. In Albany WA Tyre Recovery compresses the tyres into bales and transports them to Tyre Waste (WA) in Perth for processing.

WA Tyre Recovery currently collects tyres from Manjimup, Esperance, Walpole and Busselton and will discuss collection from other southern locations. A price list is available and opportunities exist for collection of tyres on a regional basis. The company's Administration Manager is Shiralee Smith who can be contacted on 08 9842 8878.

5 EXISTING WASTE SERVICES AND INFRASTRUCTURE

5.1 REGIONAL PROFILE

The Wagin Group Region spans 280kms from east to west. With a population of merely 14,139 across the whole region the generation and concentration of waste makes sustainability of service provision difficult. Several waste companies are currently established through the region but the quality of services provided reflects the low concentrations of waste and recyclables generated.

The waste management companies established in the region are:

- Great Southern Waste Disposal
- Avon Waste
- Warren Blackwood Waste

5.1.1 RECYCLING

The above companies provide waste collection and limited recycling services that are reflective of their recovery operations. Great Southern Waste Disposal provides both MGB collection and loose verge pick up to residents as well as collection from drop off facilities. Great Southern Waste Disposal does not have a mechanised sort system at its premises in Narrogin and therefore relies heavily on source separation and kerbside sorting.

Avon Waste provides MGB collection and bulk bin collection from commercial premises and drop off facilities. As its premises in York include a mechanised sorting process, Avon Waste accepts all recyclables in a co-mingled state.

Warren Blackwood Waste provides MGB collection and has a limited sorting plant that caters for low volumes of co-mingled recyclables at its Katanning plant.

5.1.2 LANDFILLS

There are currently twenty one (21) active landfill sites across the twelve (12) Councils in the region. With a total waste generation of the region estimated at 27,131 Tonnes per annum most landfills experience difficulty in compliance due to lack of resources and budgeted funds.

The Region can be divided into two zones, East (Refer Map 5.1.4) and West (Refer Map 5.1.5) with respect to strategic landfill locations. Several of the smaller landfills, particularly those located in close proximity to surface water bodies should be considered for closure and replaced with waste transfer stations.

By considering the region in these two zones, consideration of concentrating waste into particular landfills becomes an option. Careful consideration is required however into the establishment of strategic regional landfills. Map 5.1.4 suggests that Narrogin is the central and therefore preferred location for a regional landfill in the western zone, however a major landfill positioned within 500m of the town's limits and 250m from the nearest residence is not sustainable.

In addition, consideration should be given to Councils that display a track record of good landfill management and compliance with the DEC Licence requirements. At the time of inspection of the 21 landfills throughout the region, Williams and Narrogin Town displayed good landfill management principles.

The environmental state of landfills in the region in most cases was poor and results from either lack of resources, diligence in management or availability of funding. Even with signs erected advising of heavy fines for burning waste, many landfills display evidence that waste is regularly burnt.

Pests, such as feral cats, were evident at most landfills and the issue is compounded by waste not being covered. The erection and maintenance of litter screens and the closing of litter gates around the open pits will reduce the presence of feral cats around landfills.

Landfill compliance will not be secured until landfill opening times are controlled, gates locked when the landfill is not open and preferably supervised whilst open. By restricting opening times residents will be required to schedule trips to town to coincide with landfill opening times. The presence of supervision and additional resources will encourage recycling and waste diversion from landfill.

The following table lists the landfills in the Wagin Region and includes an estimate of the annual tonnages accepted. Consideration should be given to applying restricted opening times to all landfills. As the landfills are all located within 2Kms of the town which the landfill services, it would be possible to make arrangements locally to control gate opening.

Consideration should be given to providing supervision to every landfill that accepts in excess of 1,000 Tonnes of waste per annum. This will include eight (8) landfills across the region.

Refer Appendix 2 for photographs from the Wagin Region's landfills.

No.	Landfill Name	Council	Estimated Annual Tonnage
1	Lake Grace	Lake Grace	1,927
2	Newdegate	Lake Grace	570
3	Lake King	Lake Grace	285
4	Varley	Lake Grace	92
5	Kukerin	Dumbleyung	142
6	Dumbleyung	Dumbleyung	1,144
7	Wagin	Wagin	3,626
8	Woodanilling	Woodanilling	812
9	Darkan	West Arthur	1,516
10	Duranillin	West Arthur	169
11	Williams	Williams	1,757
12	Narrogin	Narrogin (T)	9,007
13	Wickepin	Wickepin	915
14	Tincurrin	Wickepin	98
15	Harrismith	Wickepin	98
16	Yealering	Wickepin	295
17	Cuballing	Cuballing	1,227
18	Popanyinning	Cuballing	358
19	Pingelly	Pingelly	2,294
20	Wandering	Wandering	697
21	North Bannister	Wandering	102
21	Total for Region		27,131

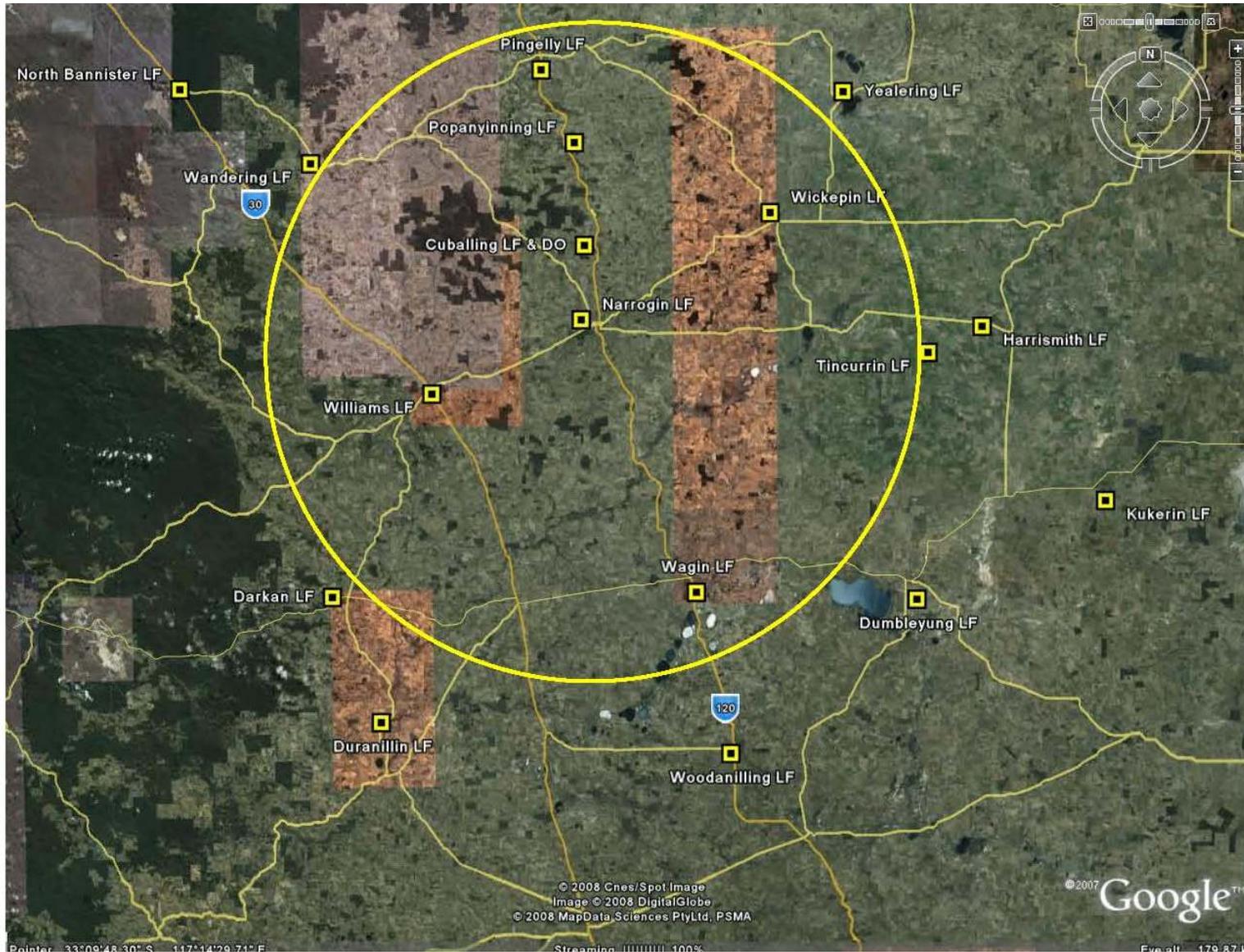
5.1.3 DROP OFF FACILITIES

The Wagin Region has an extensive network of recycling drop off facilities that should be commended. Even with the vast distances and minimal volumes of recyclables collected, the Councils in collaboration with the three waste management companies provide recycling collection to most of the region.

Refer Appendix 2 for photographs from several of the regions drop off facilities.

No.	Drop Off Facility Name	Council	Contractor
1	Lake Grace	Lake Grace	Warren Blackwood
2	Kukerin	Dumbleyung	Warren Blackwood
3	Dumbleyung	Dumbleyung	Warren Blackwood
4	Wagin	Wagin	Great Southern Waste Disposal
5	Woodanilling	Woodanilling	Council
6	Darkan	West Arthur	Great Southern Waste Disposal
7	Duranillin	West Arthur	Great Southern Waste Disposal
8	Arthur River	West Arthur	Great Southern Waste Disposal
9	Williams (Town)	Williams	Avon Waste
10	Williams (L/Fill)	Williams	Avon Waste
11	Narrogin	Narrogin (T)	Great Southern Waste Disposal
12	Wickepin	Wickepin	Council
13	Tincurrin	Wickepin	Council
14	Harrismith	Wickepin	Council
15	Yealering	Wickepin	Council
16	Cuballing	Cuballing	Great Southern Waste Disposal
17	Popanyinning	Cuballing	Avon Waste
18	Pingelly	Pingelly	Great Southern Waste Disposal
19	Wandering	Wandering	Avon Waste

5.1.4 CURRENT LANDFILL SITES – WESTERN WAGIN REGION

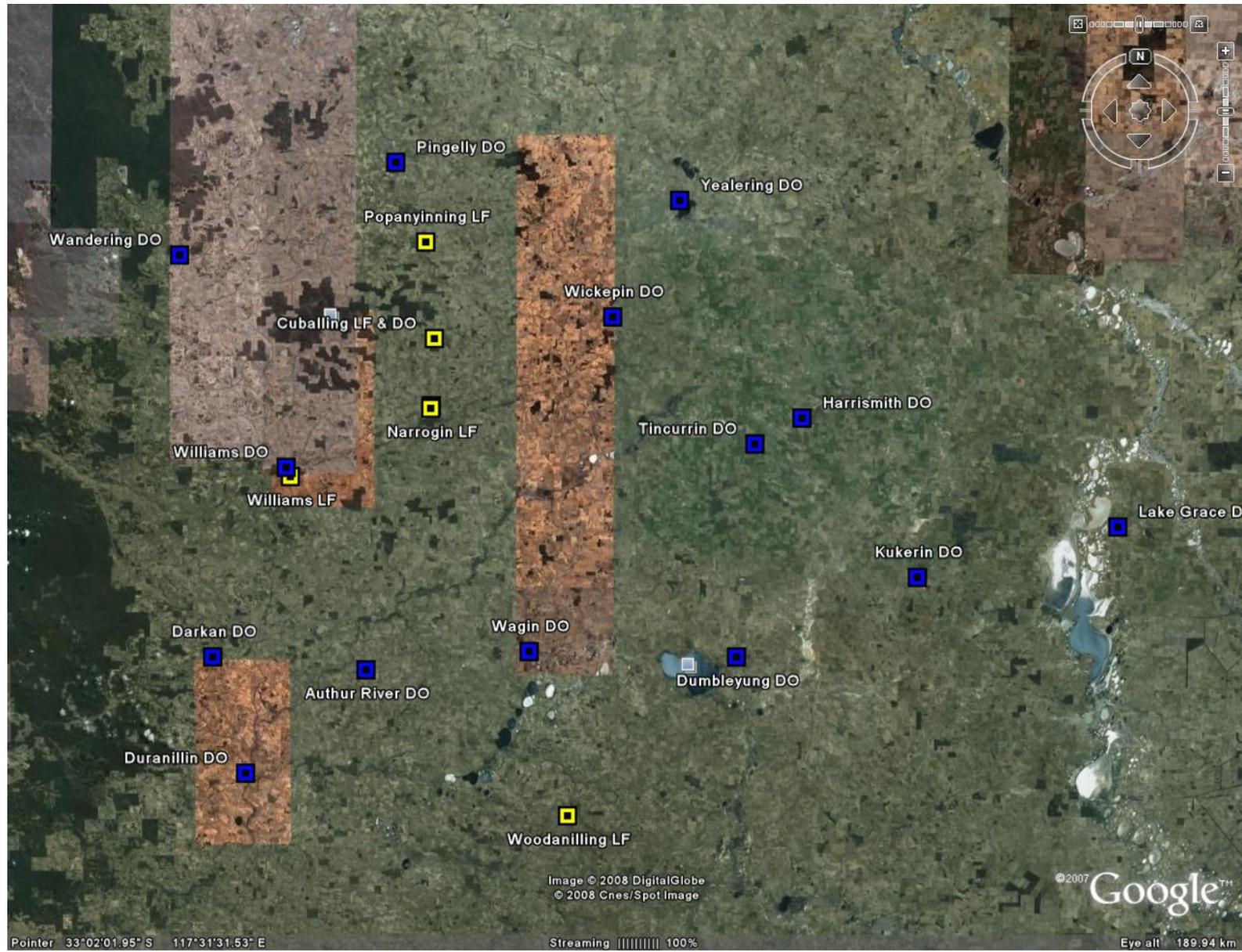


Note: Yellow line represents approximate 50km radius around Narrogin landfill.

5.1.5 CURRENT LANDFILL SITE – EASTERN WAGIN REGION



5.1.6 CURRENT RECYCLING DROP OFF CENTRES



5.1.7 DEMOGRAPHICS AND PREDICTED GROWTH

Population numbers and other demographic statistics are taken from the 2006 ABS Census statistics. These may vary slightly to a Council's recognised population, however, using the Census data provides consistency across the region and consistency with the Phase 1 data previously submitted.

Growth assumptions were provided by each Council with growth predictions for the next five years summarised in Table 7.1.

5.2 COUNCIL INFRASTRUCTURE AND RECOMMENDATIONS

5.2.1 SHIRE OF LAKE GRACE

Lake Grace Recycling Drop Off Facility

In Lake Grace the Shire has a community drop off compound. The compound houses:

- Recycling bins,
- Charity clothing bins,
- Pallet for battery collection, and
- 204L drums to collect steel comprising mainly agricultural machinery tine shoes.

Lake Grace, Newdegate, Lake King and Varley Landfills

All four landfills have oil collection, DrumMUSTER and a stockpile of used tyres. Varley in particular attracts 20L green plastic drums discarded by geological drilling contractors who frequent the region. These containers are not collected as part of the DrumMUSTER and are now one of the regions problematic wastes.

The Varley landfill has a concrete structure 13 metres long and has a 2.6 metre raised area which from recent anecdotal evidence is not situated within the designated site. It is the intention of the Shire of Lake Grace to continue to utilise the designated site as a landfill with an anticipated life of 20-30 years.



All four landfills suffer from wind blown litter due to uncovered waste. Lake Grace and Lake King have a high vermin potential due to the disposal of municipal waste. Cardboard was evident in all

landfills as a significant waste stream. Cardboard could be removed along with steel by the introduction of transfer stations to the region.

Both Newdegate and Varley landfills are located on the banks of lakes posing an environmental risk from wind blown litter, leachate generation and vermin/pests.

Problematic Wastes

- Green plastic 20L drilling grease drums at Varley.
- Tyres

Recommendations

- Continue the process for the establishment of a landfill site for Roe location 116.
- Promote recycling using both kerbside and drop off recycling to increase both participation and volume recycled.
- A significant drop off facility has been developed in Lake Grace, Council budget for drop off facilities in other towns.
- Encourage the source separation and recycling of cardboard through the Shire, especially from hotels, food stores and roadhouses.
- Introduce sustainable purchasing, Planet Ark printer cartridge recycling and Waste Wise Schools programme.
- Investigate appropriate management of the green 20L driller's drums in the region.
- Prepare a landfill management plan.
- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.

5.2.2 SHIRE OF DUMBLEYUNG

Kukerin Landfill

The Kukerin Landfill is located 1km from Kukerin on the left hand side of the Kukerin North East Road. The landfill is located in scrub land and hidden from view. The landfill has:

- Septage pit enclosed behind a stock fence.
- Metal, including car bodies, white goods and sheeting.
- Timber, furniture and materials. This is a stockpile of dry waste which poses a fire risk.
- Green waste that has been recently burnt.
- Bricks, concrete and fill.

A pit is provided for general waste including household and municipal waste. Cardboard is evident and the waste must be pushed into the pit prior to burying. Litter is a problem.

No fencing wire is accepted and no advice is given on how to dispose of fencing wire.

The landfill is enclosed by a 1.8m high litter fence.

Dumbleyung Landfill

The Dumbleyung landfill is located on a clay/limestone ridge 4kms south of Dumbleyung, 3kms down Rifle Range Road. The landfill is enclosed by a litter fence, however is not secure and is unmanned.

Fencing wire is one of the wastes not accepted.

There are separate drop off locations for:

- Used Oil
- Green waste, which is burnt.
- Bricks, rubble, concrete and fill.
- Timber, furniture and materials.

General waste is disposed at the back of the site over high ground that may have been previously landfilled. Earth bunds at each side enclose the floor where waste is pushed from the ramp and covered. The depth of the landfill face is around 1.5m. Several tractor tyres were evident in the waste along with cardboard.

The Shire conducts DrumMUSTER programs at both Kukerin and Dumbleyung. The landfill is in clayey soil on land surrounded by pasture land. There is evidence of feral cats at the site and due to the elevated position of the landfill, a lot of litter is generated. Waste is covered on a weekly basis.

Recommendations

- Bury the dry separated waste to reduce fire risk.
- Commence accepting fencing wire and keep it separate from other waste streams for collection by metal merchant.
- Refurbish the current recycling drop off centres at Kukerin and Dumbleyung Shire halls and promote service throughout the Shire.
- Increase the capacity or service frequency of the recycling drop off centres.
- Prepare a landfill management plan.
- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.

5.2.3 SHIRE OF WAGIN

Wagin Landfill

The landfill occupies an 8.76Ha parcel of land known as Lots 667, 668 and 669 Brockman Road Wagin. The landfill is registered by the DEC (Number 1720) as a Category 89 – Putrescible Landfill Site. The site has a remaining life estimated at 5 years. The site is enclosed by a 1.8m high ring lock wire fence. There is a stand pipe for fire fighting, gate house and waste oil facility established on the site. The site has restricted opening times and will soon be manned.

Waste is segregated into:

- Green waste for burning,
- Steel,
- Asbestos for deep burial,
- Septage.

Household (dry) waste is disposed at the top of a tipping face and pushed over prior to covering with soil. Landfilling occurs over natural swamp ground that drains towards the lake. Municipal waste collected in garbage trucks is disposed at a separate tipping face in the same manner as the household waste. Cardboard is evident at both tipping locations.

Cover materials are dependent on material being delivered from off site. Burial method is to push out waste over natural (swampy) ground in a 2.0m lift and cover with soil. There is no plan to go any higher and there are now houses established within the landfill's buffer distance. The landfill experienced a landfill fire some months ago and clean up following the fire is yet to be carried out.

Recommendations

- Continue with the proposal to employ a landfill attendant.
- Commence proceedings to find a new, more environmentally sustainable, landfill site in order to close the current landfill in Brockman Road. One option would be to transfer waste to the Town of Narrogin landfill.
- Establish a recycling drop off facility at the Shire depot.
- Establish cardboard recycling at the proposed recycling drop off centre and at the manned landfill.
- Prepare a landfill management plan for the landfill.

- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.
- Introduce kerbside recycling.
- Investigate establishing a transfer station in preference to creating another landfill in the region.

5.2.4 SHIRE OF WOODANILLING

The only landfill in the Shire is sited on a large parcel of land set in bushland on a clay base. The landfill is extremely tidy considering that it is unmanned and unfenced. Waste is directed to various locations within the site based on the following waste streams:

- Waste oil
- Recycling stored in coloured 240L bins catering for paper, plastic, glass and aluminium. Council employees transport the recyclables to Katanning.
- Green waste is stockpiled for burning
- White goods
- Steel including sheeting and fencing wire
- Car bodies
- Building waste
- General waste is disposed in a trench and covered weekly.

Portable litter screens are used at the perimeter of the pit to minimise wind blown litter although many panels were missing at the time of our visit due to theft. It was reported that the remaining panels were stolen the following weekend. Installing security gates and controlling access may assist to reduce inappropriate activities such as theft, scavenging, lighting of fires, illegal dumping, dumping of waste from outside the Shire and vandalism.

The landfill is well maintained, situated on a clay strata and has sufficient capacity to service the Shire's disposal needs for many years.

Problematic Waste

- Illegal dumping of waste coming from outside the Shire.

Recommendations

- Introduce a DrumMUSTER program.
- Install lockable security gates at the Woodanilling landfill and control opening times.
- Reinstate the portable litter fence around the waste pit.
- Separate fencing wire from the light gauge steel.
- Prepare a landfill management plan for the landfill.
- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.
- Introduce kerbside recycling.
- Investigate adopting the Waste Wise Schools programme.

5.2.5 SHIRE OF WEST ARTHUR

Darkan Landfill

Located on the north side of Gibbs Road, the Darkan landfill is situated in a bush environment within expired gravel pits. The land is a large property and vested in the Council. The Geology is laterite gravel with underlying clay strata. The site is fenced with some windblown litter both at and beyond the fence. The landfill is unmanned.

Waste separation occurs with separation including:

- DrumMUSTER
- Steel and white goods

- Car bodies

General waste goes into an open pit with waste placed along its entire length. The waste is covered weekly and there was evidence of a recent fire in the waste.

Duranillin Landfill

The Duranillin landfill is located 2kms south west of town on the north side of Duranillin Road at the end of a 500m track. The area has been used for gravel extraction and landfilling for many years with landfilling now occurring in an expired gravel pit located on higher ground.

The geology is laterite gravel over clay strata. The land is treed with grazing land immediately to the east. The landfill is unmanned and only partially fenced.

On entering the site there is a green waste drop off area on the left and a steel drop off area which has metal sheeting, white goods, car bodies and fencing wire co-mingled in one stockpile. It is alleged that the scrap metal merchant does not take steel contaminated with wire from this site.

The tipping pit is accessed along its entire length with evidence that most waste is coming from rural properties due to the nature and method of packaging of the waste. A small amount of litter is present.

Problematic Waste

- Fencing wire at Duranillin

Recommendations

- Retain both the landfills at Darkan and Duranillin.
- Install lockable security gates at the Darkan landfill and control opening times.
- Man the Darkan landfill during controlled opening times.
- Prepare a landfill management plan for both landfills.
- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.
- Prohibit municipal waste contractors from using the Duranillin landfill.
- Separate fencing wire into a separate stockpile at both landfills.
- Commence battery collection for recycling.
- Establish a hard waste resource recovery shed at Darkan landfill to recycle household and other useful goods.
- Introduce kerbside recycling to both Darkan and Duranillin.
- Retain the three recyclables drop off sheds for use by rural residents.
- Develop the green waste composting facility, but with further consideration about its location to comply with DEC buffer distances.
- Promote the use of home composting bins for lawn clippings, garden prunings and kitchen scraps.

5.2.6 SHIRE OF WILLIAMS

Williams Depot

Located outside the Shire's works depot is a used oil recovery facility and bulk recycling bins (3m3 front-lift) for residents to drop off recyclables. DrumMUSTER is also located within the Shire depot.

Williams Landfill

The Williams' landfill has restricted opening times and is manned. It is one of the tidiest landfills in the region. Being manned has resulted in the landfill appearing to be compliant with the Environmental Protection (Rural Landfill) Regulations 2002.

The landfill is fenced with a security fence around its entire perimeter and has lockable gates. A gate house has been established with portable water and power provided. Tipping fees are collected from waste deliveries not covered by tip passes. Tip passes are issued by the Shire to ratepayers that are paying for a waste service.

The site is located 500m south of the Williams Kondinin Road and about 2kms east of the town. The land is elevated and heavily treed with the landfill positioned on top of the ridge in an expired gravel pit. The geology is laterite gravel overlaying white kaolin clay strata. The land is Class A and vested in the Council. The landfill has well in excess of 10 years life left. Since the site has been manned and only open at restricted times waste volumes have dropped. It is believed that waste no longer comes to the landfill from outside the region.

The landfill attendant has full time access to a backhoe to attend to landfill management activities resulting in clean tidy stockpiles of separated waste materials into the following streams:

- Oil drums
- 4.5m³ front lift bin for cardboard.
- 4.5m³ front lift bin for recyclables
- Scrap metal, including metal sheeting and white goods.
- Fencing wire is stockpiled separately for collection by Sims Metal.
- Batteries
- Pallets
- Green waste for burning
- Car bodies

The site was completely free of litter at the time of the visit with all roads and access areas clean and tidy. There was evidence of pests such as cats and crows.

The general waste pit is at least 5m deep (the deepest the Consultant has seen in a rural landfill) with vertical sides into the white clay. At one end the trench is stepped to aid exit from the pit in an emergency.

A contributing factor to little or no litter at the site is the positioning of the tipping pit at the base of the previously excavated gravel pit. Although the excavation has warning signs a safety risk is evident. Waste tipping is restricted to one end resulting in conservation of airspace and control of litter by regular waste covering. Good compaction can be achieved by restricting the tipping area of waste also.

A large quantity of cardboard was evident in the pit, however there was no evidence of tyres at the landfill which may be a result of the landfill being manned.

Recommendations

- Continue to establish the recycling shed at the landfill
- Investigate the purchase of a mulching machine for processing green waste.
- Work with Avon Waste to expand the bulk recycling collection service provided to develop commercial bulk recycling and more commercial cardboard.
- Review compliance of the excavated waste pit at the landfill with legislation related to working from heights from Worksafe and excavation guidelines from the Department of Mines to ensure safety compliance.
- Prepare a landfill management plan.
- Prepare a landfill procedures document for operating rural landfills in order to reduce fire risk, vermin and litter issues.
- Introduce kerbside recycling to both Williams and, in cooperation with the Shire of Boddington, at Quindanning using Warren Blackwood Waste for collection services.
- Establish green waste shredding at the landfill.

5.2.7 TOWN OF NARROGIN

Narrogin Landfill

The Town operates a landfill site located 1Km north of town on the east side of White Road. The site is enclosed by a sound rural fence fitted with lockable gates. The landfill is open seven days per week with the entry station semi-manned by the Town's staff Monday to Friday but is not manned on weekends. Opening hours are between 10.00am and 5.30pm.

Great Southern Waste Disposal operates the landfill under a separate contract with the Town, which is due to expire in 2010.

The Town's staff invoice for disposal and monitor resident tip pass access. The contractor's operation includes all facets of landfill management in accordance with the site's DEC License. The contractor has scavenging rights for the landfill which promotes resource recovery.

The waste stream is separated into:

- Batteries
- Fire wood
- White goods (light metal)
- Car bodies (filled with steel cans from recycling)
- Green waste for burning
- Asbestos for burial in a purpose built deep pit
- Glass stored in a bank of around 200 x 240L MGBs
- Plastic bottles stored in wool packs
- Medical waste disposal area enclosed by a security fence is available but medical waste from the Town's hospital is now transported to Perth for disposal.
- Used oil collection facility
- DrumMUSTER compound (belongs to the Shire of Narrogin)
- Newsprint stored in a space frame canvas covered shed 5m x 10m.

The contractor uses the site to stockpile recyclables collected from neighbouring Councils including:

- Brookton
- Pingelly
- Wagin,
- West Arthur
- Tambellup
- Kojonup

The recyclables collected from the above mentioned Shires are separated at kerbside and stockpiled at the Narrogin Landfill. On a regular basis recyclables are transported to Perth and on-sold to recycling companies.

It was reported that the contractor collects in the vicinity of 300 Tonne of recyclables per annum from these Shires by providing an at the kerb collection service. As there is no recycling service of any form provided to the residents of either the Town or Shire of Narrogin, residents use the landfill contractor's facilities as a recycling drop off point. Participation would however be minimal.

Inspection of the tipping face revealed that all cardboard generated in the region is landfilled even though local businesses tend to source separate cardboard via their transport methods, being generally in caged trailers. Other recoverable waste visible on the tipping face was construction and demolition waste and timber.

The tipping method at the time of the visit was to tip waste at the top of the face and push over the edge of a 3m to 4m face. There was no effort to compact the waste in thin layers, rather the waste was allowed to free fall and gain sufficient stability from machine passes prior to cover being

placed on the resulting extended tipping area. Adequate density of waste was not being achieved. Landfill heavy machinery consisted of the D6 Dozer and a large front end loader.

The Town intends to establish a light vehicle transfer station at the North West corner of the site. Access will be through a new entrance 400m further up White Road. The transfer station will incorporate resource recovery, recycling and improved gate house and site amenities buildings. Three phase power and water will be provided.

Recommendations

- Continue with the establishment of the new landfill reception and transfer station but expand the resource recovery to include a tip shop, C&D waste and cardboard.
- Investigate supporting the contractor to consolidate cardboard to facilitate transport to Perth.
- Consider offering the White Road landfill as a potential site for a regional materials recovery facility.
- Prepare a landfill operations procedures manual to address waste placement methods and operation of the transfer station.
- Improve waste compaction by procedural change.
- Investigate participation in a regional green waste chipping machine/service to allow the reuse of green waste.
- Establish a kerbside recycling collection service.
- With the introduction of a kerbside recycling service reduce the capacity of the 240L waste bin to 140L.
- Incorporate recyclables drop off at the new transfer station.
- Establish a treed buffer along the western boundary of the site adjacent to White Road to shield the transfer station and landfill from view.
- Adopt a recycling ethos within the Town's operations.

5.2.8 SHIRE OF NARROGIN

Highbury Landfill

The Shire has a landfill site located approximately 1Km north of Highbury on the western side of Blight Road. The landfill site was closed about six years ago when the Shire introduced a waste collection service with the waste going to the Town of Narrogin landfill. The Highbury landfill is located on high ground on a laterite gravel ridge. The area supports medium timber and native understory. The site is secured by a locked gate and has undergone a degree of rehabilitation. It is reported that a considerable quantity of demolition concrete is stockpiled towards the rear of the site. The gate was locked at the time of the visit and the site was not entered.

Highbury Alternate Landfill Site

The Shire has a 167 acre property which has in the past been considered as a future landfill site. The land, which is vested in the Council for gravel extraction, is located on the north west corner of the intersection of Contine and Narrakine Roads about 8Kms south of Narrogin. The site has been used extensively for gravel extraction and is an elevated site with medium sized native trees established. The stratum is laterite gravel overlaying clay. The site falls to the east towards Narrakine Road with the extraction pits visible from the Narrakine Road.

Access to the site is from Narrogin, with sealed roads from the site to Narrogin. The remaining three access roads leading to the site are unsealed. There is a house located in close proximity to the intersection with another immediately west of the site. This house would be at the edge of the required 500m buffer zone for a landfill.

At this stage there is no plan to develop the site for landfill purposes, however the site is more appropriately positioned for a landfill than the Town of Narrogin site.



Recommendations

- Continue to utilise the disposal services that are available from the Town of Narrogin.
- Investigate future participation in a regional kerbside recycling service accompanied by a recycling drop off centre at Highbury for rural properties.
- Investigate the introduction of recycling initiatives such as office recycling, Mobile Muster, Waste Wise Schools etc.
- With the introduction of a kerbside recycling service consider reducing the capacity of the 240L waste MGB to 140L.
- Investigate and promote potential site(s) for a regional landfill should the Town of Narrogin landfill be considered for closure.

5.2.9 SHIRE OF WICKEPIN

Wickepin Recycling Station.

Just north of the railway line on Richter Street in Wickepin the Shire has established a recycling drop off and material recycling facility (MRF). The site is approximately 75m x 50m and is enclosed by a security fence and lockable gates.

Within the compound are two sheds approximately 9m x 15m each. The most recent shed is an open fronted agricultural shed that cost around \$13,000 to install.

The recycling depot sorts recyclables into:

- White goods.
- Tyres.
- Pallets.
- Steel cans both in drums and bags and compressed into billets using a steel can crusher
- Glass separated into the three colours in bulk bunkers.
- Separated plastics are packed loose into wool packs.
- 204 L steel drums
- Bundled newsprint
- Pressed bales of liquid paper board (milk and drink cartons)
- Pressed bales of cardboard.

- Pressed bales of shredded paper
- Phone books on pallets.
- Wool packs of Styrene.
- Wool packs of plastic film.
- Batteries on pallets

Within the facility there are:

- Steel can crusher.
- Three vertical elephant foot bale presses.
- Fork lift.
- Recyclables sorting table.
- Newsprint bundling table.
- Used oil collection facility.

The recyclables are transported to Perth in the Shire's tip trucks. The recycling process is noble and generates enthusiasm and waste management ownership within the community but is highly uneconomical. The recycling initiative is driven solely by one man, a Council employee whose passion for recycling would be difficult to replicate.

Barriers to development of waste services are lack of availability of housing for additional workers. The recycling service costs the Shire around \$60,000 per annum to operate with revenue from recyclables of around \$12,000.

Wickepin Landfill

Located 2Kms north of Wickepin on the western side of Pingelly Road, the site is situated on a laterite rise and underlain by clay. There is a sign on the unsecured entrance road prohibiting fires. The site is surrounded by poor grade rural fencing with no gates. The site is unmanned and unsupervised.

General waste is disposed in an open pit. A previous litter fence was once installed around the pit but is now in disrepair. It is evident there have been fire events in the pit which are a result of the site not being secured with adequate fencing and lockable gates. Waste observed was mainly residential MGB waste with a large amount of recyclables evident in ashes.

Light metals are in one heap and consisted of metal sheeting, fencing wire, household hard waste, junk and tyres. The light metals did not appear to be salvageable due to the amount of contamination from hard waste (junk).

There is a separate and sign posted tipping location for CBH grain which appeared to be once a pit that is now filled with spent grain. The grain dump also contained grain covers (heavy plastic sheeting). Green waste is separated at the landfill.

The landfill has been here many years as several lifts of garbage on the site are evident. Both the light metal and green waste are pushed over the edge of the hard stand. This makes recovery not possible. Light metals from past times that have been pushed over the face show signs of being burnt. No compaction or cover is evident and this waste, once burnt, consists almost entirely of metals.

At the rear of the site is a stockpile of 10 to 20 car bodies. White goods have been separated into a different location and are reasonably clean in comparison. C&D waste such as bricks, concrete and rubble have been separated and there is a spoil dump on site also.

Recommendations

- Recover light metals from old landfill areas and rehabilitate.
- Prepare a Landfill Management Plan as the site is filling fast and becoming elevated. Good planning is now required.
- Separate light metals from hard waste (junk)

- Provide better signage for source separation.
- Fill general waste pit from one end and reinstall litter fences.
- Investigate options for improved recyclable processing efficiencies from a regional approach to recycling processing.

Tincurrin Landfill

Located 300m north of Tincurrin, the landfill is not licensed by the DEC and consists of an open pit with evidence that the waste is burnt. The pit is dug into a clay and laterite gravel sub base and is surrounded by light trees. All waste goes into the pit and at the time of the visit included a fridge, stove, cardboard, residential waste and drums. The site is not fenced.

Recommendations

- Close the landfill
- Either, install a transfer station using roll on roll off waste bins to transfer the waste to Harrismith landfill, or provide a kerbside bulk waste service twice yearly using Shire tip trucks and transport the waste to Harrismith.

Tincurrin Recycling Drop Off Shed.

Located in an AC sheeted 8m x 3.3m shed behind the Post Office, the shed is open at the front and has an earth floor. Bundled newsprint and co-mingled recycling are collected and taken back to Wickepin.

Harrismith Landfill

Harrismith Landfill is located 600m south east of Harrismith on the southern side of Stock Route Road.

There was no green waste found at the site. There are old stockpiles of inert bricks and builders rubble on site. There is a mixed stockpile of light metals containing fencing wire, bricks, tyres, metal sheeting, hay wrap and pallets. This stockpile has been burnt in the past.

The site has a large general waste pit some 4m deep x 8m wide and shows evidence of regular burning. Waste included farm chemical drums that should go to DrumMUSTER, fence wire, tyres, residential MGB waste, recycling, cardboard, furniture, hard waste (junk) and truck brake drums that should be recycled with the steel. There is a lot of recoverable steel in the pit (electro-magnet or log grab could retrieve this)

The site is unfenced and un-supervised. The geology is clay sub soil in a low swampy area surrounded by light scrub. There is absolutely no signage as all signs have faded. There is more waste at this site than at Tincurrin and there is evidence that the site is frequented by farmers.

Recommendations

- Install litter fence around the waste pit.
- Install signage at landfill entrance and throughout the site to facilitate source separation of waste into
 - light metals,
 - fence wire,
 - timber,
 - C&D waste,
 - general waste.
- Clean up site and retrieve steel in the process.
- Prepare landfill procedures manual.

Harrismith Recycling Drop Off Shed.

Located in town next to the St Johns Ambulance, the shed is open at the front and contains a pallet for bundled newsprint and 8 x 204 Litre steel drums for recyclables along with plastic bags of aluminium cans.

Yealering Landfill

Located 500m north of town past the school, the site is positioned in low land consisting of white/pink kaolin clay. The area is very low and swampy and is the head waters for the Avon River. The area has a high water table with water lying in the waste pits appearing as black leachate. The site is not fenced and is unsupervised.

There is some signage and separate areas for the disposal of light steel, including white goods, metal sheeting, mixed hard waste, fence wire, tyres, plastic wrapping (sheeting) and several mattresses.

At the green waste pit there was considerable contamination with all sorts of waste dropped off at this location. The green waste is pushed into a pit and burnt creating a black leachate in the pit. The green waste area is clearly signed but residents appear not to take notice.

The general waste is dumped into two open pits each being 3m deep and 6 m wide. One pit is partly surrounded by a litter fence that is now in disrepair. Evidence indicates that waste is burnt regularly and a large amount of recyclable steel cans is evident in the ashes.

Although there is a sign nearby stating that the pit is for “household waste only” the pit contained several concrete footings and other C&D waste. Other waste in the first pit consisted of tyres, furniture, large quantities of recyclables including plastic bags of aluminium cans and cardboard.

At a second pit household waste has been deposited and no cover has ever been applied to the second pit.

Recommendations

- Limit household waste disposal to one pit. Reinstate litter fences around the active pit.
- Contain green waste on hard stand and burn in situ.
- Add additional signage to separate hard waste from light steel.
- Provide education to residents on source separation of waste and recovery of recyclables.

Yealering Recycling Drop Off Shed

Located in the centre of town near grain silo number 03 the shed is open at the front and contains pallets for bundled newsprint and yellow lidded MGBs for recyclables.

There are two yellow lidded recycling bins located at the shops and two more at the school for recycling collection.

5.2.10 SHIRE OF CUBALLING

Cuballing Landfill

The Cuballing landfill is located 2Kms North West of Cuballing at the end of Brundell Street. The landfill accommodates the 130 houses in Cuballing plus the surrounding farms. The site is manned by one of the Shires waste contractors, Great Southern Waste Disposal, three days per week.

Monday 8.00am – 1.00pm

Saturday 11.00am – 5.00pm

Sunday 10.00am – 5.00pm

The site has a security fence along the two exposed boundaries and fitted with lockable gates. The remaining two boundaries are enclosed by good quality rural fencing. The site is quite tidy with some rehabilitation underway near the entry where a stand of native shrubs has been planted. There is some evidence of wind blown litter but it is all contained within the site boundary.

The site is surrounded by light trees and native scrub and is located on a slight rise. The stratum is laterite over clay which is typical of this region.

Great Southern Waste Disposal operates the landfill entry station and along with scavenging rights to the waste operates the recycling drop off facility. The contractor is paid \$30,000 per year (2008-09) for the provision of these services. Recycling is taken to Narrogin by the contractor in readiness for transport to Perth.

The recycling drop off facility is an agricultural shed open on three of the four front bays and closed on the other three sides. It measures roughly 15m x 8m and was supplied and erected for around \$7,000. Rather than use footings the shed was erected on stirrups to allow relocation if required due to future rationalisation of the waste services. The shed was erected in September 2007 as part of the manning of the landfill.

The recycling shed has an earth floor and includes a caravan to serve as a site hut and has a chemical toilet. Tank water is available and a portable generator provides power.

The recycling attendant greets vehicles as they enter the site, oversees the unloading of recoverable materials at the shed and directs the vehicles to the appropriate disposal location for waste disposal. The attendant does not supervise waste disposal.

Materials collected are:

- Co-mingled recyclables in wool packs mounted on frames.
- Bundled news print on pallets.
- Car batteries on pallets.
- Aluminium (antennas etc)
- Gas bottles.
- Glass in MGBs
- Tin Cans
- Plastics

Recyclables are separated quite well considering there is no signage at the building. This would be due to the attendant always being present at the recycling shed. The contract does not require the attendant to supervise the landfill area or the control of litter. The outcome of this is that the landfill operation falls short of other manned landfills observed in the region.

The tipping face for general waste is raised and overlays old lifts of landfilling. Waste is deposited at the top of a long inclined face and without supervision waste is tipped short of the tipping face. Waste consisted of bagged household waste including some recycling and cardboard. Cardboard is not removed from the waste stream as Great Southern Waste Disposal does not recycle cardboard at Narrogin.

Council pushes the waste down the inclined face each Friday and covers with soil. There was no evidence of any burning of general waste.

Green waste is stockpiled and burnt as required. There is evidence of a considerable volume of green waste being generated. The Shire owns a small chipper creating an opportunity to chip the green waste. The process of shipping using small machinery is very labour intensive.

Light metals are separated into a stockpile that includes metal sheeting, white goods and fence wire all combined. Sims apparently takes metals mixed with wire from this location but reduce payment to the Shire by approximately 10% to cover contamination.

Building rubble and inert C&D waste is separated to one side by a sign labelled “commercial waste”, which would be confusing to out of town users as commercial waste is the name given to waste generated from commercial business operations such as cafes, hotels, shopping centres etc.

The site has at least ten years of remaining life left.

Recommendations

- Instigate a 240L kerbside recycling collection.
- Incorporate a 140L garbage service with the 240L recycling service.
- Investigate a green waste drop off and chipping facility at the Shire’s Cuballing landfill.
- Include within future landfill contractor tender specifications the requirement for a customer focused approach for the management of the recycling drop off facility.
- Separate fence wire from light metals.
- Investigate regional involvement in chipping green waste
- Promote participation in the recycling initiatives that are currently available.
- Erect litter fences each side of the general waste tipping area.
- Start collecting cardboard for recycling.
- Develop landfill procedures manual to assist in operation of tipping face.

Popanyinning Landfill

The landfill is located 2Kms from town on the south side of Popanyinning East Road within a treed area currently used for gravel extraction. The site is around 5Ha and has laterite and clay geology. The current landfilling is over previous lifts of waste.

At the location for general waste the waste is tipped at the base of the face and pushed up weekly using loaders. Loaders then apply soil cover to the top of the waste fortnightly by approaching from the rear over earlier landfilled waste. This process results in the lift being restricted to less than 1.5m resulting in inefficient landfill practices.

The tipping area is protected by good quality litter fencing.

There is no signage on the tipping faces to aid source separation; signs near the entrance refer to the green waste area and the offal pit.

The general waste had been recently covered so no comment can be offered on waste makeup.

Fence wire, light metals and white goods are separated in one stockpile but are heavily contaminated with fence posts, timber, tree branches, green waste and tyres. Drums of cooking oil were also observed in the metals area.

Adjacent to the entrance is a green waste drop off area and an offal pit. The green waste is pushed up and burnt as required.

Avon Waste provides and services three 4.5m³ front lift bins for collection of co-mingled recyclables. These bins are serviced monthly at the same time that the bins at Williams are serviced.

Popanyinning township has sites available should the recycling bins require re-location.

Recommendations

- Increase depth of waste in face.
- Provide more signs to separate waste.
- Separate fence wire from light metals.

Yornaning Road West Site

Located some 2 Kms along Yornaning Road West is a large parcel of unallocated crown land vested with the Minister for Water Resources as a water catchment area. Runoff from the area

feeds into the Hotham River. The Shire has been removing gravel from a location within this crown land for a number of years and is currently in the process of having the gravel pit vested with the Shire.

The Shire considers the site to have potential as a future landfill. Yornaning being geographically central in the Shire would be well positioned should a single Shire landfill ever be required.

External Reviews

In 2003 Harold McKenzie was engaged to carry out a compliance audit on the two operating landfills in the Shire.

During 2005 the Department of Environment (DoE) carried out a Due Diligence investigation of the Yornaning Road West site and concluded that the site being a gravel pit was already degraded making it qualify for consideration as a landfill site. The DoE also commented that the site may be restricted due to being surrounded by native vegetation, suggesting a permit to clear may be an issue. The DoE highlighted that the groundwater flow from beneath the site was towards the recreational water body 500m to the southeast posing further issues. The DoE did not favour the alternative site on Yornaning Road East either due to its close proximity to the Hotham River and being sited on private land.

A Landfill Site Review was undertaken in 2007 by IW Projects. Both of the two current landfill sites were investigated along with the two proposed sites suggested for a central landfill in the Yornaning area. The report made a recommendation that should Cuballing resolve to close the two existing landfills the Yornaning Road West gravel pit site would be the preferred site.

The reasons given were that the gravel pit site was centrally located within the Shire, well screened by native vegetation, appeared to have suitable geology and is 550m away from any water body.

Recommendations

- Consider establishing a central landfill at Yornaning and closing the landfills at Cuballing and Popanyinning.

5.2.11 SHIRE OF PINGELLY

Pingelly Landfill

The landfill is located 2Kms south of town on the western side of the Great Southern Highway. It is located in an elevated position in laterite and clay stratum. The site should have a remaining life of at least ten years considering the height that can be achieved from landfilling. The entrance sign is badly faded and has deteriorated since the last visit to the site in May 2008 by the consultant. The site is surrounded by a security fence with lockable gates and opening times are restricted to Friday, Saturday, Sunday and Monday. The site is not manned on weekends and is semi-manned on Mondays and Fridays with a Council employee attending the site on an occasional basis to push up waste and attend to the site.

The site supports a used oil facility and there is a new 20m x 10m open fronted agricultural shed for resource recovery. The shed was built at a cost of \$20K. The shed is to house recoverable furniture items and the new cardboard baler recently purchased. Baling of cardboard is labour intensive and it is noted that the local contractor Great Southern Waste Disposal does not process cardboard for this reason. However, Avon Waste does process cardboard as it utilises automated equipment to process commingled recyclables.

The shed is positioned away from the entrance gate and diversion of the traffic flow will be required to utilise the resource recovery shed to its full potential.

Tyres are stockpiled separately and are a problem for disposal.

General trailer household waste is dropped at the base of the landfill face and the attendant removes any white goods or other salvageable items prior to burial. There is lots of cardboard evident in the general waste stream.

The site has a Case 621B front end loader dedicated to the landfill.

The waste contractor tips its residential waste at the top of the face and the Shire pushes the waste down over the edge of the face and over the trailer waste prior to covering.

There is a separate area to drop off light metals including white goods. The light metals were extremely clean due to the semi-presence of the landfill attendant and the availability of the front end loader.

Green waste is separated and stockpiled for twice yearly burning.

Recommendations

- Start to collect and recycle batteries.
- Investigate introducing a 240L MGB fortnightly recycling service whereby Council own the MGBs.
- At the same time as the introduction of the recycling service change the waste service to a 140L MGB with Shire providing the bins.
- Redesign the town's recycling drop off centre to be either a bank of "recycling bins" included in the new kerbside recycling contract or introduce bulk front lift recycling bins. Inquiries with Avon Waste revealed that it drives a front lift recycling truck through Pingelly on its way from York and Popanyinning to service Williams, Boddington and Wandering. A bin may cost around \$1,300 per annum.
- Place a cardboard bulk bin at the landfill for Avon waste to service
- Investigate involvement in a regional green waste chipping service for processing green waste.
- Investigate a regional approach to tyre management using a contractor.
- Develop the drop off centre at the landfill
- Investigate manning the landfill full time while gates are open.
- Repaint the entrance sign and upgrade other source separation signs.
- Develop a landfill operating procedures manual.

5.2.12 SHIRE OF WANDERING

Wandering Landfill

The landfill is located 0.5Kms south of town on a rise of laterite gravel over clay and is heavily treed. The site is not fenced and not secure.

Good signage has been provided throughout the landfill. The used oil collection is positioned inside the entrance and the tank is a different style than normally supplied by the Commonwealth government. It is designed for utilities to reverse up and unload 204L drums from the back of the utility.

A DrumMUSTER compound is positioned nearby. Further up the hill is a green waste area with no noticeable contamination. Green waste is burnt twice a year. A sullage pit is available for septage. The main tipping area is enclosed by a litter fence and allows for waste separation. The four dry waste stockpiles were:

- White goods,
- Light metals consisting of metal sheeting and drums,
- Tyre stockpile has metal sheeting and car bumpers mixed in. Tyres are problematic as they appear to be brought in from outside the Shire and also dumped illegally on the Shire's road verges.

- There was a stockpile of “mixed hard waste”. This included fence wire and car bodies. This needs to be separated and metals removed.

Fence wire is banned from the landfill which forces farmers to either bury wire on their farms or dump illegally. Aluminium cans are collected in a cage by the Lion's Club. There is a dedicated pit for CBH spent grain as there is a grain storage facility nearby that is serviced by road transport.

The general waste area is a pit dug across the hill. Waste is dumped in the pit and never covered and waste burnt twice a year. It was last burnt in April 2008.

Observed waste included residential waste from the Shire's waste contractor, householder waste and furniture. Other waste present included timber, recyclables, drums, steel and metal. The waste is pushed in weekly. The current pit has been in operation for three years.

Recommendations

- Stop burning waste.
- Start to collect and recycle batteries.
- Start to accept fence wire and stockpile separately.
- Retrieve light metals and car bodies from mixed waste, stockpile and bury residual.
- Cover general waste in accordance with Licence requirements.
- Dispose of tyres through regional co-operation.
- Incorporate a 140L MGB in the garbage service at the end of the current contract.
- Consider chipping green waste as part of a regional initiative

North Bannister Landfill

Located 1Km north of the Half Way Roadhouse at North Bannister, near the intersection of Albany Highway and North Bannister-Wandering Road, the landfill is east of Albany Highway and sited in CALM reserve within a short distance from Ginger Creek. Ginger Creek feeds into the Bannister River which feeds into the Hotham River.

The site is in white/pink clay and is heavily treed. The landfill is an open pit with the perimeter surrounded by a litter fence. The pit was full at the time of the visit and contained large quantities of industrial building waste.

Waste included metal sheeting, a galvanized water tank, furniture, shop fittings, white goods, as well as recyclables, food waste and cardboard.



The landfill is not deliberately burnt as it is in DEC land and attracts attention from the fire brigade if burnt.

The Half Way Roadhouse is the main user of the landfill with the Shire disposing of waste collected from bush reserves there as well. The Half Way Roadhouse is currently closed for major renovations and as no waste skips have been provided as part of the renovation all resulting building waste is going to the landfill. This is a prime example of the need for waste management plans to be submitted as part of the building approval process.

Recommendations

- Close the North Bannister landfill.
- Have Half Way Roadhouse provide a skip bin waste service for renovations and general waste when back in operation. Introduce worm farm or similar for composting organics at the Half Way Roadhouse. Introduce a recycling skip. Shire should require the roadhouse to either pay directly to a contractor or charge through rates levied for a waste disposal and recycling service.

5.2.13 WASTE MANAGEMENT PLANS (WMP) FOR DEVELOPMENTS

Town Planners across Perth are of the opinion that significant waste recovery can be obtained by requesting developers to include WMPs as part of a development application.

The C&D recycling industry in Perth is of the opinion that it can now accommodate and process all C&D waste diverted from landfill. Many Councils are keen to have the ability to require waste management plans from developers but do not have the legislative authority to do so.

A mini summit was held earlier this year to explore the ability of local governments to request waste management plans for developments. Legal opinion on the subject suggests that there may be opportunity to carry out this function under the Waste Avoidance and Resource Recovery Act (WARR Act). A sample of what is being done in USA to address this issue was tabled at the summit.

Following are the persons that were invited to, or participated in the mini summit:

Name	Representing
Bruce Bowman	Bowman & Associates
Bernie Burnett	WMRC
Stuart McAll -	SMRC
Peter Tapsell	DEC
Rebecca Brown	WALGA
Kumar Vadivale	City of Melville
Dave Waller	City of Rockingham
Andrew Melville	City of Nedlands
Adrian Lester	C&D Working Group (WMAA)
Chris Tanner	Town of Kwinana
Eddy Albrecht	City of Stirling
Brendan Doherty	SMRC

Meeting was hosted by the Southern Metropolitan Regional Council with legal advice provided by the Western Metropolitan Regional Council.

Purpose of the mini summit was to identify a legal mechanism to allow Councils to:

- Request Waste Management Plans from developers in order to divert construction materials away from landfill.
- Identify a plan for WALGA to co-ordinate this initiative on behalf of Local Governments.

The outcome was that the WA Local Government Association (WALGA) will co-ordinate a Working Group after first surveying local councils on the level of interest in having WALGA facilitate the Working Group.

The Working Group will:

- Identify opportunities under WARR Act to provide opportunities to divert C&D waste away from landfill.
- Appoint a consultant to carry out many of the functions required.
- Identify funding opportunities.
- Undertake industry consultation.
- Investigate the sustainability of recycling building and demolition waste.
- Review existing reports (two reports of interest are pending release by the DEC).
- Carry out research into what is happening in other countries (Iceland etc).
- Obtain legal advice regarding the new WARR Act and its Regulations when enacted.
- Justify diversion based on Climate Change for waste avoidance, resource recovery, carbon trading and GHG emissions.

5.3 DATA GAPS FROM PHASE 1 DATA

The data submitted and adopted by the DEC in Phase 1 of the Zero Waste Plan Development Scheme was reviewed and considered not to be accurate on a regional basis. As no weighbridges exist in the landfills in the region, the waste generation volumes were based on Council estimates. The data from Phase 1 is summarised below and waste generation rates per capita calculated.

The MSW generated per person vary greatly from as low as 165 Kgs to 5.7 Tonnes per person. It was decided to use other methods to calculate the expected waste generation rates for the region; these are shown in Table 5.3.2.

The Blue Book - Australian Waste Industry, 2007/08 Industry Market Report which is jointly published by WCS Market Intelligence and Waste Management and Environment Media (WME Media) is normally used as the principle source of standard industry data by Bowman & Associates.

The Blue Book concludes that for Perth 22.6% of the total MSW, C&I and C&D waste stream is made up of MSW waste and that every person in Australia is responsible for the generation of 2.717 Tonnes per annum of combined waste. This equates to 614 Kgs per annum per person in Perth.

Recent work by Bowman & Associates in preparing Strategic Waste Management Plans for Perth Metropolitan Regional Councils has shown that Perth's Actual MSW generation rate is 580 Kgs per person, significantly lower than the Australian average.

Inspections of the landfills and MGBs in the Wagin region suggested that the consistency of MSW generated in the Wagin region is very different to that of Perth as green waste was not present in the waste stream. In fact, the only green waste observed from MGB collections was rose prunings.

The Resident Questionnaire completed as part of the community consultation process highlighted the high use of home composting for garden waste and kitchen waste was used for feeding

“chooks”. It can be assumed that the volume of waste to landfill in the Wagin region is less than that per capita of Perth.

During 2003, Bowman Bishaw Gorham prepared the Town of Narrogin Assessment of Waste Management Options. Item 2.6 of the report equated that the MSW generation rate was 460 Kgs per person per annum.

It is considered by Bowman & Associates that the estimates provided by Bowman Bishaw Gorham in 2003 are the most indicative for the region and that an MSW generation rate of 460 Kgs per person should be used as the basis for estimating waste generation rates in the Region.

5.3.1 PHASE 1 DATA FROM DEC

	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1456	632	1846	399	858	863	4238	829	716	779	1168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1822	324	377	363	541	191	6,751
Total MSW Waste Collected	Tonnes	1176	385	565	66	313	5000	3500	195	484	450	1	1	12,136
Total MSW Waste to Landfill	Tonnes	1100	385	550	56	307	5000	3500	195	405	450	1	1	11,950
Total KS Waste Collected*	Tonnes	1100	385	550	46	141	5000	3500	195	404	0	0	0	11,321
Total KS Waste to Landfill*	Tonnes	1100	385	550	46	141	5000	3500	195	404	0	0	0	11,321
Total KS Dry Recyclables Collected*	Tonnes	76	0	15	0	4	0	0	0	80	0	0	0	175
Total KS MRF Residuals to Landfill*	Tonnes	0	0	0	0	0	0	0	0	1	0	0	0	1
Total KS GW Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS GW residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS Organics Recovered (AWT**)	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS & Drop-off GW Collected	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off GW to Landfill	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off HW Collected	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS & Drop-off HW to Landfill	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS GW & HW Combined Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS GW & HW Combined to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Drop-Off Waste Collected	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Waste to Landfill	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Dry Recyclables Collected	Tonnes	0	0	0	10	3	0	0	0	0	150	0	0	163
Total Drop-Off Dry Recyclables residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	150	0	0	150
Total MSW Waste/ Person	Kgs/ Person	808	609	306	165	365	5,794	826	235	676	578	1	3	858
Total MSW Waste/ Household	Kgs/ Household	1,487	1,088	638	357	670	11,086	1,921	602	1,284	1,240	2	5	1,798
Waste Diversion Rate	Percent	6.5%	0.0%	2.7%	15.2%	1.9%	0.0%	0.0%	0.0%	16.3%	0.0%	0.0%	0.0%	1.5%

5.3.2 ADJUSTED PHASE 1 DATA USING 460KGS PER PERSON

	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1456	632	1846	399	858	863	4238	829	716	779	1168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1822	324	377	363	541	191	6,751
Total MSW Waste Collected	Tonnes	670	291	849	184	395	397	1949	381	329	358	537	163	6,504
Total MSW Waste to Landfill	Tonnes	594	291	834	184	391	397	1949	381	249	358	537	163	6,329
Total KS Waste Collected*	Tonnes	594	291	834	164	222	397	1949	381	249	0	537	163	5,782
Total KS Waste to Landfill*	Tonnes	594	291	834	164	222	397	1949	381	249	0	537	163	5,782
Total KS Dry Recyclables Collected*	Tonnes	76	0	15	0	4	0	0	0	80	0	0	0	175
Total KS MRF Residuals to Landfill*	Tonnes	0	0	0	0	0	0	0	0	1	0	0	0	1
Total KS GW Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS GW residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS Organics Recovered (AWT**)	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS & Drop-off GW Collected	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off GW to Landfill	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off HW Collected	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS & Drop-off HW to Landfill	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS GW & HW Combined Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS GW & HW Combined to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Drop-Off Waste Collected	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Waste to Landfill	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Dry Recyclables Collected	Tonnes	0	0	0	10	3	0	0	0	0	58	0	0	71
Total Drop-Off Dry Recyclables residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	58	0	0	58
Total MSW Waste/ Person	Kgs/ Person	460	460	460	460	460	460	460	460	460	460	460	460	460
Total MSW Waste/ Household	Kgs/ Household	847	821	960	992	845	880	1,070	1,177	874	987	993	855	963
Waste Diversion Rate	Percent	11.3%	0.0%	1.8%	0.0%	1.0%	0.0%	0.0%	0.0%	24.3%	0.0%	0.0%	0.0%	2.7%

5.4 MSW GENERATION - BY COUNCIL

5.4.1 TOTAL MSW GENERATED

	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1,456	632	1,846	399	858	863	4,238	829	716	779	1,168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1,822	324	377	363	541	191	6,751
Total MSW Waste Collected	Tonnes	670	291	849	184	395	397	1,949	381	329	358	537	163	6,504
Total MSW Waste to Landfill	Tonnes	594	291	834	184	391	397	1,949	381	249	358	537	163	6,329
Total KS Waste Collected*	Tonnes	594	291	834	164	222	397	1,949	381	249	0	537	163	5,782
Total KS Waste to Landfill*	Tonnes	594	291	834	164	222	397	1,949	381	249	0	537	163	5,782
Total KS Dry Recyclables Collected*	Tonnes	76	0	15	0	4	0	0	0	80	0	0	0	175
Total KS MRF Residuals to Landfill*	Tonnes	0	0	0	0	0	0	0	0	1	0	0	0	1
Total KS GW Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS GW residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total KS Organics Recovered (AWT**)	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS & Drop-off GW Collected	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off GW to Landfill	Tonnes	0	0	0	0	1	0	0	0	0	0	0	0	1
Total VS & Drop-off HW Collected	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS & Drop-off HW to Landfill	Tonnes	0	0	0	0	25	0	0	0	0	0	0	0	25
Total VS GW & HW Combined Collected	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total VS GW & HW Combined to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Drop-Off Waste Collected	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Waste to Landfill	Tonnes	0	0	0	10	140	0	0	0	0	300	0	0	450
Total Drop-Off Dry Recyclables Collected	Tonnes	0	0	0	10	3	0	0	0	0	58	0	0	71
Total Drop-Off Dry Recyclables residuals to Landfill	Tonnes	0	0	0	0	0	0	0	0	0	58	0	0	58

5.4.2 WASTE AND RECYCLABLES PER HOUSEHOLD/CAPITA

	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1,456	632	1,846	399	858	863	4,238	829	716	779	1,168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1,822	324	377	363	541	191	6,751
Total MSW Waste Collected	Tonnes	670	291	849	184	395	397	1,949	381	329	358	537	163	6,504
Total MSW Waste to Landfill	Tonnes	594	291	834	184	391	397	1,949	381	249	358	537	163	6,329
Total Recycling Collected	Tonnes	76	0	15	0	4	0	0	0	80	0	0	0	175
Total MSW Waste/ Person	Kgs/ Person	460	460	460	460	460	460	460	460	460	460	460	460	460
Total MSW Waste/ Household	Kgs/ Household	847	821	960	992	845	880	1,070	1,177	874	987	993	855	963
MSW Waste Diversion Rate	Percent	11.3%	0.0%	1.8%	0.0%	1.0%	0.0%	0.0%	0.0%	24.3%	0.0%	0.0%	0.0%	2.7%

5.4.3 ESTIMATED MSW/C&D/C&I

	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1,456	632	1,846	399	858	863	4,238	829	716	779	1,168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1,822	324	377	363	541	191	6,751
Total MSW Waste Collected	Tonnes	670	291	849	184	395	397	1,949	381	329	358	537	163	6,504
Percentage of MSW	Percent	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%	22.60%
Calculated MSW Waste	Tonnes	670	291	849	184	395	397	1,949	381	329	358	537	163	6,504
Percentage of C&I	Percent	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%	37.70%
Estimated C&I Waste	Tonnes	1,117	485	1,417	306	658	662	3,252	636	549	598	896	272	10,849
Percentage of C&D	Percent	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%	39.70%
Estimated C&I Waste	Tonnes	1,177	511	1,492	322	693	697	3,425	670	579	629	944	287	11,425
Estimated Total Waste Generated	Tonnes	2,964	1,286	3,757	812	1,746	1,757	8,626	1,687	1,457	1,586	2,377	723	28,778
Combined Total MSW/C&D/C&I Waste per Person	Tonnes	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035	2.035

NOTES

- Reference for Percentages - The Blue Book Australian Waste Industry 2007/08 Industry and Market Report, Tables 5.4 & 5.5 Waste Generation 2004/05, Page 58
- Wagin MSW Tonnages for 2006-07 year are derived by using 460 Kgs (MSW) per Person from the Bowman Bishaw Gorman report 2003.
- C&I and C&D Tonnages are derived from percentages derived from statistical data in the Blue Book

5.4.4 PRIORITY WASTES

Priority waste varies across the region, however enquiries with waste management companies operating in the region suggest that all problematic wastes can be addressed through consultation and on a regional basis.

Tyres were mentioned as a problem at both Pingelly and Varley landfills. WA Tyre Recovery can assist with tyre removal from across the region. Contact Shiralee Smith on 9842 8878.

Cardboard and post consumer recyclables are evident at every landfill. Discussions with waste contractors have indicated that even where a kerbside recycling service is provided the utilisation of the service is generally poor compared to many other regions. The Resident Questionnaire suggested a degree of scepticism in the community that material placed out for recycling will actually be recycled. There are three waste management companies established in the region and all three are keen to expand the services that are provided.

The Varley Landfill has a collection of drilling mud plastic drums. These are 20 Litre green plastic drums that potentially contain residue. Enquiries with Claw Environmental who conduct the DrumMUSTER program throughout the Great Southern Region suggest that with consultation these drums could be processed during a DrumMUSTER program based on a fee for service.

Fencing wire is a prohibited waste stream at several landfills in the region. Some landfills have stockpiles of contaminated wire that will not be taken by scrap metal contractors. Other landfills have very orderly stockpiles of source separated fencing wire that is taken by the scrap metal merchants. All landfills should accept source separated fencing wire to stop illegal and inappropriate dumping of fencing wire. Stockpiles of wire contaminated with fence posts should be burnt. Councils should reinstate the recycling of fencing wire scrap metal merchants.

Many of the landfills particularly in the north west of the Wagin region have good sized stockpiles of green waste. Most green waste collected at landfills is burnt. West Arthur has an established green waste recycling program and is considering expanding to include composting. There is an opportunity to process green waste on a regional basis.

The Resident Questionnaire circulated to residents as part of the preparation of the Plan highlighted the need for disposal options for electrical waste, energy efficient light bulbs, dry cell batteries, used furniture, and household and farm chemicals.

Participation in the joint DEC/MWAC household hazardous waste collection program may provide assistance with household chemicals. An electrical waste collection program can be introduced as part of either the enhanced drop off facilities or bulk hard waste verge collection.

Waste streams that can contribute heavy metals to the landfill should be source separated and disposed at a minimum in a lined landfill.



Good green waste volumes at Cuballing Landfill



Contaminated fencing wire needs to be burnt prior to collection



Wire at Duranillin Landfill. If burnt to remove fence post scrap metal merchant will collect fence wire



Cardboard at Wagin Landfill. Cardboard collection bins at landfills and drop off centres will remove cardboard from landfill.



Cardboard at Lake Grace Landfill



Drill mud drums at Varley. If washed in conjunction with DrumMUSTER these drums can be shredded and removed by a fee for service by the DrumMUSTER contractor.



Tyres can be collected by tyre contractors



Aluminium Cans on the tipping face of a landfill is a wasted resource.

5.4.5 GOVERNMENT POLICY/REGULATORY IMPLICATIONS

Currently in WA waste management is the responsibility of Local Governments. The main legislation that included aspects of waste included the Health Act and the Local Government Act. These effectively established that waste management is important to public health and that it is the responsibility of Local Governments.

Local Governments are responsible for the collection and disposal of waste. The collection of waste is normally contracted out to waste collection companies. Some Local Governments, mainly in metropolitan Perth, form Regional Councils to manage the disposal of the waste. These regional councils oversee the landfills and Materials Recovery Facilities (MRFs).

The Western Australian Local Government Association (WALGA), the peak lobbying and advocacy organisation for local governments in WA, created the Municipal Waste Advisory Council (MWAC). The MWAC is a standing committee of WALGA that is responsible for waste management policy. WALGA's waste management goals are "to facilitate, encourage and promote economically sound, environmentally safe and efficient waste management practices for Western Australia, endorsed and supported by local Government". The MWAC is "actively involved in state wide co-ordination of recycling issues, review of waste management legislation, production of position papers on waste management, (and) promotion of Integrated Resource Recovery techniques".

Since 1988 development of new waste legislation had been on the state government's agenda. In 2001 the state government published the WAste 2020 Task Force report and recommendations which first showed the goal of zero waste to landfill by 2020. In 2002 the Waste Management Bill was introduced to parliament but did not proceed through to become law.

The State Government in 2002 created its own waste advisory body, the Waste Management Board (WMB) under the Department of Environment and Conservation (DEC). The WMB, which is currently chaired by Barry Carbon, is "responsible for offering strategic advice to the Western Australian Government on waste management issues". The Waste Management Board in consultation with the DEC created a Strategic Direction framework and in 2004 published the Statement of Strategic Direction for Waste Management in Western Australia: Vision and Priorities.

The Statement "sets out the framework and priorities for waste management in Western Australia for the next three years within the context of the broad vision and goal for the next 15 years". This goal is to move "towards zero waste by 2020". The main principles of the WMB is that waste management can be divided into three areas, prevention, recovery and disposal, and that to achieve the main goal of zero waste, focus is required on all three areas.

The Statement outlined the framework and priorities for three years from 2004-07. This new direction "will put greater emphasis on projects that reduce the generation of waste while also making sure we encourage and support continued improvement in waste reuse, recycling reprocessing (Recovery) as well as environmentally safe disposal of residual waste (Disposal)". One of these priorities was to get new comprehensive waste legislation passed through Parliament.

In October 2007 the Waste Avoidance and Resource Recovery (WARR) and Waste Avoidance and Resource Recovery Levy (WARRL) Bills were introduced to Parliament. In December 2007 the WARR and WARRL Bills passed through both houses and became the Waste Avoidance and Resource Recovery (WARR) Act 2007 and the Waste Avoidance and Resource Recovery Levy (WARRL) Act 2007. In the WARR Act 2007 the purpose of the Act is described as "The purpose of the waste strategy is to set out, for the whole of the State—

- (a) a long term strategy for continuous improvement of waste services, waste avoidance and resource recovery, benchmarked against best practice; and
- (b) targets for waste reduction, resource recovery and the diversion of waste from landfill disposal.”

The Waste Management Board had stated that, “The WARR Bill:

- establishes an independent statutory waste authority responsible for waste strategic policy and planning, and for administering the funds raised through the collection of the landfill levy;
- allows for the Department of Environment and Conservation to manage regulation, compliance and enforcement functions relating to waste;
- creates the head-powers for establishing product stewardship plans and extended producer responsibility schemes; and,
- consolidates and updates waste provisions currently in other legislation, such as the Health Act 1911.”
- The 2007-2008 WMB Business Plan provides an overview of the planned activities to be undertaken in 2007-08. These activities will be funded mainly by the landfill levy and fall into some general themes:

Extended Producer Responsibility and Waste Legislation - includes the WARR Bill, development of Industry Product Stewardship Plans, and investigations into a Container Deposit Scheme.

Organics – includes development of guidelines for compost, support for recycled organics projects, and the provision of support for the implementation of industry-based initiatives.

Working with Government – includes implementation of the National Environment Protection Measure on packaging, National Packaging Covenant, Local Government Zero Waste Plan Development Scheme roll-out, household hazardous waste, and having governments lead by example in using recycled material.

Emerging Priorities – includes policy interventions, landfill levy review, recovery and disposal capacity, and the provision of information about waste industry in WA.

Strategic Partnerships – includes the Municipal Waste Advisory Council (MWAC), Greenstamp program, Waste and Recycling Conference, and the Centre for Excellence in Cleaner Production.

Waste and Resources Awareness and Promotion (WRAP) – includes advice to households and events, website and publications, Waste Wise Schools, and Waste Wise Schools grants.

Litter Prevention – includes the litter prevention strategy.

Business Management Support – includes levy compliance and account administration, grant contracts and funding schemes, WMB support, and preparing for the future.

Review current waste strategies and summarise to suit project objectives. The current state government waste strategies are based on the WMB’s foundation principles of prevention, recovery, and disposal.

Prevention of waste is being achieved by supplying information to the public, like tips on how to shop smart, the Buy Recycled Guide, fact sheets, and brochures on worm farming and household composting. The state government’s re-signing of the National Packaging Covenant (NPC) from 2005 to 2010 commits it to a partnership between local and state governments, industry, and consumers to ensure resource conservation and recovery. The covenant sets a target for a reduction in the amount of non-recyclable packaging sold. Industrial waste reduction is also one of the prevention strategies; the State Sustainability Strategy requires a fourfold improvement in the resource efficiency of the WA economy by 2020 and the Department of Environment and Conservation will implement a form of Extended Producer Responsibility (EPR) scheme that will encourage more sustainable product designs.

Recovery of waste is being achieved by providing information to the public about what, how, and where to recycle through the guides, brochures, and the internet. The NPC also sets a target for recovery of packaging materials; the amount of packaging recycled must be at least 65% by 2010. The Sustainability Code of Practice, as part of the State Sustainability Strategy, asks government agencies to implement programmes and procedures to reduce, recycle, and reuse. Programmes that aim to increase the amount of recovery of waste in industry include the Greenstamp programme, rechargeable battery recycling programme, mobile phone recycling programme; providing information to employers and employees about recycling at work; and creating a construction and demolition recycling directory.

Safe disposal of some waste will always be necessary; though that amount should be smaller and smaller as WA moves towards zero waste. The WMB provides information about WA's landfills and on how to dispose of household hazardous waste. The Department of Environment and Conservation has created a kit for local governments that provides information about household hazardous waste. The Office of Government Procurement has established six panel contracts for waste disposal from government agencies that include recycling, audits, and collections. For industry, WMB provides information on controlled wastes and landfill licencing.

Local Governments decide on how much and of what type of waste and how it is collected in their areas. Most metropolitan councils have both kerbside recycling and garbage collection. Some councils provide a kerbside organics collection as well.

Local Governments will soon be required to have Strategic Waste Management Plans under the Zero Waste Plan Development Scheme that will "ensure a consistent and rigorous approach to waste management throughout the State".

The result of these local government and MWAC plans and the Towards Zero Waste by 2020 plans of the WMB and State Government will be the progressive reduction of the amount of waste to landfill. This means that a progressively greater amount will be recovered, including organic waste. The MWAC says: "Organic wastes are the single largest component of the waste stream. Approximately 1.2 million tonnes of organic waste was generated in Perth in 1996 (WAste 2020, 2001). 25% of this waste originated from green (or garden) waste with other main contributors to this waste stream being manures and sludges (20%), food wastes (18%) and paper and cardboard waste (15%). Land clearing, timber processing and wood combine to form another 18% of the organic waste."

If WA seriously wants to achieve zero waste to landfill then a comprehensive plan for dealing with organics must be created and implemented. The organics will have to be composted or turned into renewable energy in a bioreactor type system. This is the recovery principle taking over from the disposal principle.

Much of the waste that could and will be recycled in the future is still going to landfill. This will have to drastically change if WA is going to meet its goal of *towards zero waste by 2020*. The rest of the waste that cannot be recovered will have to be prevented from being disposed of.

5.5 MATRICES OF INFRASTRUCTURE AND SERVICES PROVIDED

5.5.1 MATRIX 2 - EXISTING SERVICES AS AT SEPTEMBER 2008

The contents of the following Table have been amended to correct previous errors or omissions in the data from Phase 1.

	Ref.		Cuballing	Dumbleyung	Lake Grace	Shire of Narrogin	Town of Narrogin	Pingelly	Wagin	Wandering	West Arthur	Williams	Woodanilling	Wickepin
Collaboration	1	Are you a single Local Government or part of a Regional Council or a grouping of Local Governments	Regional centre dealing with its material only	Regional centre dealing with its material only	Regional centre dealing with its material only	Fully collaborating with other councils in a formal or informal arrangement, including collection, processing, education, joint contracts etc.	Fully collaborating with other councils in a formal or informal arrangement, including collection, processing, education, joint contracts etc.	Regional centre dealing with its material only						
Kerbside	2A	Container type and size (waste)	No Service	MGB	MGB	MGB	MGB	MGB	MGB	MGB	MGB	MGB	MGB	MGB
	2B	Container type and size (recycling)	No Service	MGB	MGB (2 towns only)	No Service	No Service	Bag Service	Other	MGB	Other	No Service	No Service	MGB
	2C	Collection frequency (waste)	N/A	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
	2D	Collection frequency (recycling)	N/A	Fortnightly	Fortnightly	N/A	N/A	Fortnightly	Fortnightly	Fortnightly	Monthly	N/A	N/A	Weekly
	2E	Participation rate (recycling)	N/A	<80%	>90 %	N/A	N/A	11-50%	11-50%	N/A	11-50%	N/A	N/A	N/A
	2F	C&I services	No Service	Contractor	Contractor	Contractor	Contractor	Contractor	No Service	Contractor	Contractor	Contractor	Contractor	Local Government
Vergeside Collections	3A	Green Waste (GW)	No	Yes	No	No	No	Yes	Yes	No	On Demand	Yes	No	No
	3B	Bulk waste	No	Yes	Yes	No	No	Yes	Yes	No	On Demand	Yes	No	No
Public Place / Event Recycling	4A	Waste Collection	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
	4B	Public Place Recycling	No	Yes	No	No	No	No	No	No	No	No	No	Yes
Drop off centres	5A	Waste Transfer Station	No	No	No	No	No	No	No	No	No	No	No	No
	5B	Paper/cardboard	Yes	Yes	Lake Grace only	Not Cardboard	Not Cardboard	Yes						
	5C	Glass container	Yes	Yes	Lake Grace only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	5D	Plastics	Yes	Yes	Lake Grace only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5E	Metal (ferrous)	Yes	Yes	Lake Grace only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5F	Metal (non-ferrous)	Yes	Yes	Lake Grace only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5G	Aluminium	Yes	Yes	Lake Grace only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5H	E-waste	Yes	No	No	Yes	Yes	No	Yes	No	No	No	No	No
	5I	Greenwaste	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5J	Oil	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	5K	Batteries	Yes	No	Lake Grace only	Yes	Yes	No	Contractor	Yes	No	Yes	No	Yes
	5L	HHW facility	No	No	No	No	No	No	No	No	No	No	No	No
Landfill management	6A	Number/Status	More than one, Limited Management	More than one, Limited Management	More than one, Limited Management	Single, Limited Management	Single, Limited Management	Single, Limited Management	Single, Limited Management	Single, Limited Management	More than one, Limited Management	Single, Limited Management	Single, Limited Management	More than one, Limited Management (3x sites)
	6B	Operational staff	One only	No	No	Yes	Yes	Occasional	No	No	No	Yes	No	No

	Ref.		Cuballing	Dumbleyung	Lake Grace	Shire of Narrogin	Town of Narrogin	Pingelly	Wagin	Wandering	West Arthur	Williams	Woodanilling	Wickepin
	6C	Fenced	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	6D	Lined	No	No	No	No	No	No	No	No	No	No	No	No
	6E	Data collection	Gate check	No	No	Gate check	Gate check	No	No	No	No	PAYG/Tip Passes	No	site inspections
	6F	Gas recovery	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Separation/ treatment/ disposal strategies	7A	Transfer Station(s)	No	No	No	No	No	No	No	No	No	No	No	No
	7B	Access to MRF	No	No	No	No	No	No	No	No	No	No	No	No
	7C	AWT facility for organics from MSW	No	No	No	No	No	No	No	No	No	No	No	No
	7D	Green Waste facility	separated and burnt or disposed to landfill	No	No	separated and burnt or disposed to landfill	Yes	separated and burnt or disposed to landfill	separated and burnt or disposed to landfill	No				
Communication / Education	8A	Education centre (or have access to)	No	No	No	No	No	No	No	Limited	No	No	No	No
	8B	Publications/Flyers	No	No	Ad-hoc publications	No	No	Regular, targeted information	No	Ad-hoc publications	Regular, targeted information	Ad-hoc publications	Regular, targeted information	Regular, targeted information
	8C	Waste Wise Schools	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No
Local Government's own activities	9A	C&D Waste	no reuse	no reuse	no reuse	Limited processing/reuse	Limited processing/reuse	no reuse	Used to raise site levels, dry fill	no reuse	no reuse	no reuse	no reuse	no reuse
	9B	Green Waste	separated and burnt or disposed to landfill	separated and burnt or disposed to landfill	no reuse	separated and burnt or disposed to landfill	separated and burnt or disposed to landfill	no reuse	separated and burnt or disposed to landfill	separated and burnt or disposed to landfill	Yes	separated and burnt or disposed to landfill	separated and burnt or disposed to landfill	no reuse
	9C	Office Waste	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes
	9D	Data Collection and Reporting	Level Unknown	Level Unknown	Limited	Limited	Limited	Level Unknown	Level Unknown	Level Unknown	Level Unknown	Level Unknown	No	Level Unknown
	9E	Sustainable procurement Policy	Yes	No	No	No	No	No	No	Yes	Yes	No	No	No
Participation in waste management related programmes	10A	DrumMUSTER	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	10B	ChemClear	No	Yes	No	Yes	Yes	Yes	No	No	No	Yes	No	No
	10C	Mobile Muster	Information not provided	Yes	Yes	Available in area	Available in area	Information not provided	No	Information not provided	Information not provided	No	No	Information not provided
	10D	Tidy Towns-sustainable communities	Yes	No	No	No	No	No	No	No	No	Yes	No	No

5.6 INFRASTRUCTURE –REGIONAL AREA

5.6.1 LANDFILLS

Landfill Name	Council	Estimated Annual Tonnage	Recommendations
Lake Grace	Lake Grace	1,927	Continue
Newdegate	Lake Grace	570	Continue with application for a new landfill site
Lake King	Lake Grace	285	Continue
Varley	Lake Grace	92	Continue
Kukerin	Dumbleyung	142	Continue
Dumbleyung	Dumbleyung	1,144	Continue
Wagin	Wagin	3,626	Close and establish another landfill site
Woodanilling	Woodanilling	812	Continue
Darkan	West Arthur	1,516	Continue
Duranillin	West Arthur	169	Continue
Williams	Williams	1,757	Continue
Narrogin	Narrogin (T)	9,007	Continue
Wickepin	Wickepin	915	Continue
Tincurrin	Wickepin	98	Close and replace with Transfer Station to Harrismith
Harrismith	Wickepin	98	Continue
Yealering	Wickepin	295	Continue
Cuballing	Cuballing	1,227	Continue
Popanyinning	Cuballing	358	Continue
Pingelly	Pingelly	2,294	Continue
Wandering	Wandering	697	Continue
North Bannister	Wandering	102	Close and replace with Transfer Station to Wandering
Total for Region		27,131	

5.6.2 RECYCLING DROP-OFF FACILITIES

Drop Off Facility Name	Council	Contractor	Recommendations
Lake Grace	Lake Grace	Warren Blackwood	Incorporate into a regional contract
Kukerin	Dumbleyung	Warren Blackwood	Incorporate into a regional contract
Dumbleyung	Dumbleyung	Warren Blackwood	Incorporate into a regional contract
Wagin	Wagin	Great Southern Waste Disposal	Incorporate into a regional contract
Woodanilling	Woodanilling	Council	Incorporate into a regional contract
Darkan	West Arthur	Great Southern Waste Disposal	Incorporate into a regional contract
Duranillin	West Arthur	Great Southern Waste Disposal	Incorporate into a regional contract
Arthur River	West Arthur	Great Southern Waste Disposal	Incorporate into a regional contract
Williams (Town)	Williams	Avon Waste	Incorporate into a regional contract
Williams (L/Fill)	Williams	Avon Waste	Incorporate into a regional contract
Narrogin	Narrogin (T)	Great Southern Waste Disposal	Incorporate into a regional contract
Wickepin	Wickepin	Council	Incorporate into a regional contract
Tincurrin	Wickepin	Council	Incorporate into a regional contract
Harrismith	Wickepin	Council	Incorporate into a regional contract
Yealering	Wickepin	Council	Incorporate into a regional contract
Cuballing	Cuballing	Great Southern Waste Disposal	Incorporate into a regional contract
Popanyinning	Cuballing	Avon Waste	Incorporate into a regional contract
Pingelly	Pingelly	Great Southern Waste Disposal	Incorporate into a regional contract
Wandering	Wandering	Avon Waste	Incorporate into a regional contract

6 RAISING COMMUNITY AWARENESS

6.1 COMMUNITY CONSULTATION

The DEC has stressed the importance of the Wagin Group communicating its intentions regarding future waste management to the wider community. The DEC has released information packs on its preferred methods of carrying out community consultation. The Wagin Group has undertaken a detailed approach in gathering the views and future plans of the participating Councils. The Wagin Group intend to communicate the information compiled in the Plan to the wider community. At the time of submission of the Plan to the DEC the Wagin Group continues to undertake the following community consultation process.

- A Resident Questionnaire was prepared and circulated to all residents in the region. Returned Questionnaires have been reviewed with a summary included in the Plan.
- The draft Plan will be advertised in local newspapers across the region.
- Plan copies will be available at the participating Council offices.
- Plan copies will be available on participating Council websites.
- Media releases concerning the Plan, its importance, and the public consultation process will also be initiated.
- The public will be invited to review the Plan and make comments to the Wagin Group.
- The comments will be collated by the Wagin Group or its Consultant and a report prepared for the Wagin Group prior to the adoption or amendment of the Plan.
- The public comment period will be 30 days.

6.2 RESIDENT SURVEY RESULTS

6.2.1 SUMMARY OF COMMENTS

A two page Resident Questionnaire was circulated to the majority of residents in the Wagin Group of Councils during July and August 2008. The observations and feedback from the Questionnaire are following.

There is no doubt that the small country landfill located within 2kms of town is a community icon. Country residents, both town and rural, view the landfill as a mandatory piece of Council infrastructure but believe, in most cases, that Councils capacity to service the communities needs is not fully realised. It must be noted that most residents are not aware of the alternate options that could be available. But in the term of this Plan country landfills are here to stay.

If landfill sites have restricted opening times and if tip fees are applied, residents will require up to six (6) tip passes per year. Opening times should accommodate the whole community, both town and country, and include weekday and weekend access. The number and length of opening times will be dependent on local Council resources.

Many respondents to the survey want to see further opportunities to reuse and recycle surplus items from furniture to green waste and post consumer beverage containers. Drop off facilities and kerbside recycling facilities provided by Great Southern Waste Disposal are not considered adequate for the residents needs as the company does not collect the full range of materials and insists on bottles and cans being washed mainly because the company's sorting processes rely on field separation and bulk storage at Narrogin.

Other issues are the safe disposal of energy efficient light bulbs, electrical waste, reuse of green waste, household and farm chemicals, oil drums and cardboard.

Although residents want to see improvements in recycling and waste services most are not prepared to support additional rates charges for improved services. But the residents of Narrogin town have indicated that they require additional services and are willing to pay extra. It is clear

however that MGB recycling services should be available to every town resident and that resource recovery facilities are required in the communities.

Cuballing

- Cat breeding problem at tip and in whole Popanyinning region. Wildlife is disappearing because of this.
- Council to bituminize road leading to Cuballing tip.
- Tip to be open longer hours for working people.
- Roadside littering problem.
- Roadside collections eg. old cars, piles of scrap metal.
- Tip staff to collect recyclables dumped with general rubbish.

Dumbleyung

- Clean up roadsides mainly in and out of town sites.
- More or bigger recycling bins in town.
- More information on exactly what is recyclable.
- Sewerage needs improvement. Have problems at home now with drains from the toilet to the septic tanks.
- Problem with sewerage at the pub.
- Community education regarding rubbish site opening times and recycling services available.
- Introduce trial of kitchen peel and garden waste and separate at tip to form compost with tree trimmings and leaves at a low cost for trailer load to residents to use on their home gardens.
- Assure ratepayers that waste is being disposed of according to legislation and not just dumped at tip.
- Shire garden waste collection twice a year – instead of once.
- Clean up of rubbish from all reserves
- Removal of old rubbish from rural lands to lead to a safer and cleaner environment for the future.

Williams

- Rural properties should have 'Sulo' bins provided.
- Some houses too far away to cart waste to council tip.
- Require waste bins for each household.
- Trevor at tip is helpful and doing a good job.
- More tip passes needed and longer tip hours.
- 6 monthly pickups should be continued.
- Refuse site is a credit to all concerned.
- More frequent recycling pickup.
- More recycling services.
- Concerns since charges introduced for tip usage that rural residents have increased on farm disposal of waste leading to greater overall environmental concerns.
- Recycle bin provided to householders. Older people cannot get to recycling facilities.
- Would like garden wastes mulched so can buy back for gardens.

Wagin

- Don't make it impossible for people to get rid of wastes as they will dump it in the bush/reserves around town more than ever.
- Collection of waste needs to generate income, costs should be borne only by those who are provided the service.

- More information required about what waste is acceptable and Council would like them.
- Do not take the opportunity away for people to take from the tip what they can use to reduce waste deposited.
- Tip opening and closing hours should be longer.
- Provide sufficient room to manoeuvre a trailer into the dump area.
- Rate payers should have at least six ute trailer loads free of charge.
- More people would recycle if it was more convenient e.g. bin.
- Would like to recycle cans, glass, paper etc but believe these do not get used as recyclable due to costs and facilities.
- Obvious recycling bins at big events such as Woolorama.
- It is not appropriate to expect farming people to help fund the tip unless they use it.
- Many people purchase bagged compost and mulch, why not make your own and sell back to community at a reasonable rate – recycle green waste.
- Better tip management with all waste separated into appropriate types for disposal to appropriate collection agencies for reuse.
- Fines (payable) to all households with unsightly litter, car bodies, weeds, fallen tree limbs etc.
- The refuse disposal level sections as they fill.
- Trees, red gums, lemon scented gums and wattles etc planted to make the area more appealing and environmentally friendly.
- Recycling section at new tip e.g. timber, old furniture, piping, plants or any reusable items (as at Rockingham tip).
- Provide wheelie bin for recyclable waste (fortnightly collection).

West Arthur

- As we cannot continue to produce non recyclable waste at this rate, there should be a concerned effort by Local Shires and State Government to promote a sustainable environment by residents and the population as a whole.
- Need changes to refuse site i.e. blown rubbish.
- More education required regarding disposal of certain wastes.
- It is the residence responsibility to dispose of their own waste on their own property or provided facilities. It is a waste of money getting involved with another Government funded organisation.
- If we are required to pay for rubbish disposal it will lead to rubbish being dumped in bush, spare blocks, farm land etc.
- The tips are good when they are deep and narrow; this usually makes people actually throw their rubbish in the hole and not on the ground.
- People using drop off centre should correctly dispose of their wastes.
- Darkan's rubbish tip is a disgrace and no one on the Shire appears to care.
- A composting day with demos, info and deals on compost bins would be great-this could also lead to veggie garden days with demos and info too.
- Yellow bins provided for aluminium cans, plastic bottles, glass bottles and jars, steel cans, newspaper and cardboard, but if the contents of the recycling depot are an indication of their use it could be a wasted effort.

Town of Narrogin

- Implement the 2 bin recycling system like everywhere else.
- Make recycling available in Narrogin so do not have to take recyclables on family trips to the city.
- It is difficult to dispose of large waste without access to transport to tip.
- The cemetery is a disgrace.

- We pay too much for bins at present.
- It would be highly recommended that we have recycling provisions.
- Annual kerbside collection for people who are unable to take waste to the tip.
- In a day and age where we should be recycling as we have more than enough knowledge about the importance of this, it is time that Narrogin introduce it into the Town and put time and effort into its success.
- Narrogin lacks badly in getting rid of rubbish, hence footpaths with broken glass on them, empty cans, plastic bottles, rubbish, hence the need for more recycling. Our streets are a disgrace go walking everyday and see it all. Also people who walk dogs but no poo bags used. It is very sad when past residents visit Narrogin and can't believe how the Town has gone backwards. No tidy Town for Narrogin.
- We use Wickopin recycling depot. Other towns such as Corrigin have kerbside recycling with large recycle bins and smaller bins for household rubbish.
- Recycling bins would be better than kerbside verge collection. We have a rubbish dump that is easy for most Narrogin residents.
- Many other towns and cities have kerbside services so why doesn't Narrogin get up with the times.
- This region is behind in every aspect of recycling, coming from the east and before that Sydney. We are amazed at the lack of interest in the environment.
- Albany – I know it is a City but they have refuse paper, cardboard, glass and tins as well as garden refuse.
- Small steps = Big progress
- I think the lack of recycling services over the past few years, is disgusting in a town this size.
- When we arrived at Narrogin 12 months ago, we had a lot of cleaning up to do and the trips to the dump were disappointing in the fact there were few recycling areas. Even green waste is not composted and resold like we were used to. There's \$\$ in waste. It just has to be organised.
- Narrogin has to lift its services in relation to recycling.
- Recycling must happen. If all ratepayers recycled then rubbish collection would decrease freeing up time on recycling which money can be earned for our town.
- Combine project with surrounding shires to aid viability.
- Used timber etc cut and sold for firewood. Encourage by payment or reward for recycle of waste.
- I have visited Bunbury and Geraldton transfer stations which work very well. This is the way to go.
- We used the previous recycling service (man with a truck) and have been very cross that there has been no effort put into replacing him (when the job was discontinued) with a more efficient service. This has gone on for quite a few years. It is an embarrassment that the town hasn't put more effort into this issue.
- We pay \$900 rates for our house in Perth that includes recycling, both kerbside and verge collection.
- In Sweden they have done the job properly for several generations. People are also given a credit for what they recycle.
- Old furniture etc like Perth Kerbside.
- If the council does not wish to provide this service – what about the Lions Club or a service club like Augusta.
- Happy with weekly rubbish collection, but would like to see more unwanted item being re-used where possible.
- It is shameful that there is no recycling in NGN, especially in today's environmental concerns and the high rates we pay.
- Dragging rubbish out of the town and throwing it in a big hole is not a waste disposal policy. Develop one now, crawl out of the dark ages.
- I would like an independent assessment of Narrogin needs.

- Need to train public to stop throwing stuff out on street when walking past.
- It is a disgrace that Narrogin doesn't provide a residential roadside recycling service.
- Encourage composting – use small bins for rubbish.
- We need new public toilets.
- Necessary to have some type of waste disposal.
- We have no recycling and it is time that we do.
- Recycle bins were provided at one point in time and we were told they were too expensive and that being the reason recycle didn't continue with the pickup bins.
- The council needs to look to the future and put money into recycling – other councils do this with far less being paid. There must be a grant for this.
- As Narrogin is a regional centre, it is disappointing that they are only considering recycling now. Other regional centres, eg Katanning have had recycling service for years.
- Put recycle bins around the place.
- We should share the industrial mulcher that Cuballing shire is presently using.
- Have one kerbside pickup yearly for tree pruning's.
- Treated waste water used to water local parks.
- Fix sprinklers/retic in parks (lots of water being wasted because sprinklers not working efficiently e.g. Sydney Hall Way Park)
- Would like to see council provide fortnightly recycling service and also a quarterly verge pickup service.
- I would like to see an operation established to turn green waste into mulch – saleable to the public and perhaps sawing of large logs for sale to public as firewood. There is so much green waste that is burnt in Narrogin.
- The council is too lazy to save the environment to do any recycling of there are recycling bins in Narrogin I will recycle.
- People need to support recycling then it can be self supportive at no cost e.g. Mandurah City Council 2 bins.

Shire of Wickepin

- Dump is a lot tidier; chipping would make this a lot better as well.
- Need to look at upgrade to access in/out of the Yearlering tip. Better fencing.
- Believe the waste management site (rubbish tip) be manned and opened only for set hours e.g. to control dumping of tyres, chemical drums and disposal of rubbish in incorrect areas. Also to encourage more recycling otherwise people have to pay.
- We need to make more locals improve on their recycling. There are still a lot of household recyclable materials being thrown at the dump.
- It seems efficient but the approach track to the dump needs levelling more often.

Shire of Woodanilling

- It is currently a 90km round trip to the shire tip so obviously it's not practical for us to use it. We have to bury our waste on farm and this is less than desirable environmentally.
- Rubbish tip should be for woody residents – often see Katanning residents using it – should be a dob-in policy? Tip works quite well.
- I would like to see plastic compost bins provided to all residential households for composting of kitchen wastes.
- I would like to see small (half size) bins provided for intractable waste with these bins being collected fortnightly and large recycling bins being provided for recyclable materials collected weekly.
- I would be prepared to pay 50% more on my waste disposal rates i.e. Current rates \$200 per year increased to \$300 per year.

- Medium size shed built at the shire tip = 6m x 12m. this would be used for storage if reusable items e.g. furniture, kitchen items, collectables etc. it would require some brown built industrial shelving so people could organize (and take) items.
- If there was an employee of the shire available, part time they could sort items and deliver to charities etc.

Shire of Wandering

- Many properties still have their own tip-often in a gully or near a watercourse. This is an environmental hazard and should be discouraged by improving waste disposal services at the tip and publishing them.
- The tip should be manned to stop people disposing of their wastes in the wrong section. The tip should be moved to a more appropriate spot away from native vegetation and that area should be rehabilitated.
- It would be good to have a drop off station in town for glass.

Shire of Narrogin

- Stop the dumping of waste in reserves e.g weeds, from road works and farm rubbish.
- Make wood chip mulch – compost – worm farm – collect scraps from large businesses – to recycle run as business – by the unemployed. Have a pickup service from large recycling – with prompt pickup.
- We require recycle pickups.
- We require a truck bay on the Harrismith Road with a rubbish bin so rubbish isn't scattered all over our road. Chicken treat boxes.
- I think our waste needs to be sorted and recycled sifted out if there is to be no pickup. "Some people are lazy about recycling".
- All rubbish needs to be segregated in home and recycled and plastic bags banned.
- The Narrogin rubbish tip is very poorly managed and waste is not covered or compacted properly it has cost me hundreds of dollars in damaged tyres which were not repairable. The management and town council don't seem to care. The charges for shire dumping have increased but the level of management seems to be the same.
- Would be handy to have the old tip opened again.
- Anything would be an improvement to what now exists. I followed a waste collection truck on Harrismith Road Tuesday. It was spreading rubbish as it travelled. Paper & debris flying everywhere appalling!
- If a skip bin was put in a suitable site from large items and two or three smaller bins for glass, aluminium cans, plastic bottles etc.
- Much more effort needs to go into recycling.
- Local govt councils and ratepayers should not bear cost of recycling industries supplying the products should contribute funds to make recycling of their products economically feasible.

Shire of Lake Grace

- Transfer station for the Newdegate landfill site.
- Need a transfer station at Newdegate for waste disposal.

Shire of Pingelly

- Three resident surveys returned, no comments reported by Shire.

6.2.2 SUMMARY OF RESPONSES

Council	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Total	Percentage
Number Returned	2	87	73	17	37	54	129	40	42	33	3	21	538	100.0%
Town		48	50	6	14	27	129	8	23	20		7	332	61.7%
Rural		34	18	10	20	23		30	12	10		11	168	31.2%
Not Specified		7	5	1	3	4		2	7	3		3	35	6.5%
Compost/Chooks Kitchen Waste														
Yes		56	49	12	27	37	87	31	22	29		12	362	67.3%
No		30	20	5	9	15	37	9	18	4		9	156	29.0%
Compost/Chooks Garden Waste														
Yes		52	44	9	23	38	83	30	38	26		14	357	66.4%
No		34	25	8	12	14	42	10	3	7		7	162	30.1%
Recycling														
Aluminium Cans														
Yes		71	33	14	23	35	65	27	38	26		16	348	64.7%
No		16	31	3	11	12	60	12	3	6		5	159	29.6%
Plastic Bottles														
Yes		71	27	14	18	31	38	10	37	29		11	286	53.2%
No		17	36	3	16	18	80	28	4	4		10	216	40.1%
Glass														
Yes		76	31	15	23	39	52	18	38	29		13	334	62.1%
No		12	31	2	12	11	69	20	3	4		8	172	32.0%
Steel Cans														
Yes		64	15	9	7	18	30	13	34	23		10	223	41.4%
No		24	42	8	25	26	84	25	7	8		11	260	48.3%
Newsprint														
Yes		76	36	13	24	40	45	21	37	27		14	333	61.9%
No		11	26	4	11	10	73	17	4	5		7	168	31.2%
Cardboard														
Yes		69	21	11	17	24	36	14	36	26		11	265	49.3%
No		19	34	6	18	21	83	11	5	6		10	213	39.6%
Greenwaste														
Yes							40						40	7.4%
No							74						74	13.8%
Waste Oil														
Yes							20						20	3.7%
No							86						86	16.0%
Problematic Wastes														
Asbestos		1			1								2	0.4%
Batteries - Car		5	2			3		2		2			14	2.6%
Batteries - Dry Cell		1	1		3		5		1			2	13	2.4%
Electronic Waste		7	4	1	7	13	19	7	3	3		3	67	12.5%
Farm Waste		1	3			2							6	1.1%
Fencing Wire		6	1	1	1			1	1			2	13	2.4%
Furniture		1						1					2	0.4%
Garden Waste		5	2	1	3	1	28	1	5	1			47	8.7%
Light Bulbs		4	2	1	1		1		1	6			16	3.0%
Mobile Phones		2						1					3	0.6%
Oil		9	6		3	1	7	6	1	7		1	41	7.6%
Paper		1	2		2	1	11	3		3		1	24	4.5%
Plastic - Bags		1	2	1		1	1	2					8	1.5%
Plastic - Bottles				1	1	2	11	2		1		1	19	3.5%
Plastic - Chemical Drums		5	5	2	4	6	2	3				3	30	5.6%
Plastic - General		2	4	2	2		18	3		6		1	38	7.1%
Steel - Drums								2					2	0.4%
Steel - Metal		2	1	1	1	6	3	1		1		2	18	3.3%
Tyres		2	3		2	1	2	1	2	1		1	15	2.8%
White Goods		2	3		3	3	2	3	2				18	3.3%
Building Waste		2	3			1		1					7	1.3%
Tin Cans		4	1			2	5	1	1			1	15	2.8%
Tanks		1											1	0.2%
Cardboard			5	1	2		9	1					18	3.3%
Glass			3		2		12	3				3	23	4.3%
Ink Cartridges							1					1	2	0.4%
Waste Service Adequate														
Yes		51	32	5	19	25	19	12	33	23		11	230	42.8%
No		9	31	6	13	13	103	16	4	8		7	210	39.0%
Not Specified		25	10	6	5	16	7	12	5			3	89	16.5%
Require More Services														
Batteries		1						1		1			3	0.6%
E-waste						1	1						2	0.4%
Green waste		3	5		3	1	5		3	2			22	4.1%
Kitchen waste					1								1	0.2%
Recycling - Drop Off		8	7		1	6	22	3	1	1		5	54	10.0%
Recycling - Kerbside		3	12	3	4	9	39	9		6		2	87	16.2%
Timber													0	0.0%
Verge - Green Waste			1	1	2				2	1			7	1.3%
Verge - Hard Waste						1	2			3			6	1.1%
Tip open longer			6			2	1			2			11	2.0%
Pick up Bins service			12	3	2	6	24		1	2		3	53	9.9%
Oil		1	1										2	0.4%
													0	0.0%
													0	0.0%
Will Pay Extra														
Yes		11	23	6	11	13	61	9	8	17		4	163	30.3%
No		35	28	5	12	25	45	11	18	9		11	199	37.0%
Unsure		7	6	3	6	7	6	3	2			0	40	7.4%
Not Specified		34	16	3	8	8	17	17	14	7		6	130	24.2%
If Yes How Much														
0-\$5 per year													0	0.0%
\$6-\$50 per year			2	1	2	1	17	1		2			26	4.8%
\$51-\$100 per year			1		1		11		1	2			16	3.0%
\$101-\$150 per year				1		1				1			3	0.6%
\$151 plus per year					2	1				2			5	0.9%

6.3 FUNDING OPPORTUNITIES

There are many funding opportunities available to local governments and communities that not only aim to reduce waste to landfill but encourage community participation and contribute to a reduction in greenhouse gas emissions. These programmes include:

6.3.1 TRAVELSMART

TravelSmart is a program that encourages individuals to make sustainable transport choices. TravelSmart was started in Western Australia but programmes have now been implemented across the country. In WA the programme is supported by the Department of Planning and Infrastructure (DPI). TravelSmart is part of the WA government's approach to reduce car dependency and increase public and active transportation. There are three main programs in the TravelSmart family: TravelSmart Household, TravelSmart Workplace, and TravelSmart Schools. TravelSmart Household is a programme run by the DPI that contacts individual households and provides them with personalised information about alternative transport options available to them. TravelSmart Workplace is a program run jointly by the DPI and Department of Environment and Conservation (DEC) that provides information and assistance to businesses and workplaces to advise on transport options and institute a Workplace Travel Plan. The DPI helps schools become TravelSmart by offering two programmes; TravelSmart to Schools and Walking School Bus. TravelSmart to Schools is a 4-5 week in-school program delivered by the non-profit organization Millennium Kids. A Walking School Bus is a supervised group of children that walk safely to or from school. The DPI provides support to parents interested in starting a Walking School bus.

The DPI can provide funding (when available) to assist local governments in hiring a TravelSmart Officer. "TravelSmart Officers make it easier to walk, cycle and use public transport by:

- Providing specialist knowledge about how to improve facilities for cycling, public transport and walking
- Organising community events
- Seeking grant funding
- Working with local schools, employers and institutions to achieve sustainable transport outcomes
- Creating positive media opportunities
- Instigating policy changes that favour active transport
- Running innovative behaviour change programmes"

Councils can also institute a TravelSmart workplace at their office, promote TravelSmart behaviour by providing information and brochures, and encourage businesses and schools in the community to participate in TravelSmart programmes.

Contact

Phone: 9216 8000

E-mail: TravelSmart@dpi.gov.au

Website: www.dpi.wa.gov.au/travelsmart

6.3.2 LIVING SMART

Living Smart is a programme that is designed to encourage households to adopt more sustainable behaviours. The program is jointly run by the DEC and DPI. There are two programmes within Living Smart:

- The first is a pilot program being trialled in two local government areas, the Cities of Mandurah and Joondalup. The programme involves contacting households to see if they would like to receive a Living Smart information pack containing brochures about energy efficiency, water use, green living, TravelSmart, and waste and recycling. Each household

chooses what, if any, information they would like to receive. The households are encouraged to participate with free gifts. Households also have the chance to participate in the Living Smart Challenge, in which a sustainability auditor audits a household's energy and water usage, informs them on ways to reduce their impact, and provides things such as energy efficient globes and water saving devices. If the trial is successful and funding is available the DPI would like to offer all households the opportunity to participate. The second programme is a Living Smart course that has similar goals and benefits to the above programme. The Living Smart course was first created in partnership by Murdoch University, the City of Fremantle, the Meeting Place Community Centre, and the Southern Metropolitan Regional Council. This program consists of a free multi-week course, usually held one evening per week, for the public, which informs and encourages sustainable living. Since the course was piloted in 2002, other courses have been run in a number of locations and by a number of local governments. Courses are usually run in partnership between a local government or regional council and a community group. Local governments can run or support the running of a course in their communities. Free comprehensive information on hosting and facilitating a course is available on the website.

Contact

Website: www.dpi.wa.gov.au/livingsmart

Website: www.livingsmart.org.au

E-mail: greenhouse@smrc.com.au

6.3.3 KEEP AUSTRALIA BEAUTIFUL

Keep Australia Beautiful WA is a government organisation that provides leadership in the field of litter prevention and reduction by helping to change the attitudes and behaviours of the community. The Keep Australia Beautiful Council is the 15 member statutory organisation that leads Keep Australia Beautiful WA. Keep Australia Beautiful WA (KAB) is one of a national network of Keep Australia Beautiful organisations, of which KAB is the only government organisation.

KAB oversees a number of programs related to education about, enforcing, encouraging, and rewarding sustainable behaviour change; as well as administering WA's *Litter Act 1979*. These programs include Tidy Towns, Sustainable Cities, Learning about Litter, Litter Report Scheme, Keep Australia Beautiful Week, and Clean Beach Challenge. KAB also has an event recycling trailer that is loaned free of charge to increase recycling and rubbish collection at public events. The Wagin Region may consider operating a similar event trailer.

KAB provides a many funding opportunities through grants and awards. Grants are given to individuals, organisations, and communities for projects that reduce litter and encourage sustainable behaviour change.

Contact

Phone: 6467 5122

Website: www.kabc.wa.gov.au

6.3.4 GREEN STAMP

Green Stamp is a joint program originally between the Motor Trades Association (MTA) WA and the DEC that has expanded to include the Printing Industries Association of Australia (PIAA) and Building Service Contractors Association of Australia (BSCAA). The Green Stamp program uses a grassroots approach to help small to medium businesses incorporate sustainability processes into their organisations and encourages customers to frequent Green Stamp businesses. Green Stamp is an accreditation program; once a business institutes sustainability processes they are allowed to display a Green Stamp logo and use it for marketing.

The Green Stamp programs differ between the DEC'S partnering industry bodies, however they are essentially all very similar.

For example:

The Green Stamp programme for cleaning businesses assists business owners and managers to better manage their environmental impacts through a range of resources and initiatives including:

- Confidential environmental assessments
- Guidance notes
- Environmental product and service directories
- Environmental checklists for assessing client sites
- Environmental information and training seminars
- Introduction to Green Stamp Accreditation program
- Promotion of Green Stamp accredited businesses to potential clients

Contact

Website: portal.environment.wa.gov.au/pls/portal/url/page/community/programs/greenstamp

6.3.5 WASTE WISE SCHOOLS PROGRAMME

The Waste Wise Schools programme provides resources and support for schools and students to plan and implement waste reduction projects such as recycling, composting, and worm farming. The programme helps schools set up waste management infrastructure and create positive attitude and behaviour change towards sustainable waste management. This program is run by the Department of Environment and Conservation and funded by the Waste Management and Recycling Account. Students receive hands on learning that is linked to the WA Curriculum Framework. School staff can receive free training in waste management, implementing school programs, and incorporating activities into the curriculum.

To become a Waste Wise School, first at least one school representative must attend the professional learning workshop or complete the external learning module. More than one representative is encouraged and they can be teachers, principals, registrars, cleaners, gardeners, canteen managers, parents/guardians, members of the P&C or any other school staff member. The workshops and the external package are free and teacher relief is provided to facilitate participation. Workshops are held throughout the year in both metropolitan and regional areas.

Schools involved in The Waste Wise Schools Program are provided with the following resources and support:

A Waste Wise Schools Kit that contains:

- The Waste Wise Way: A manual detailing best practice.
- Learning to be Waste Wise: A Curriculum Guide.
- Case studies.
- Waste Wise fact sheets and posters.
- Ollie Recycles interactive CD ROM.
- Free half-day follow-up workshops.
- Free incursions from the Waste Wise Schools van.
- Eligibility to apply for Waste Wise Schools Grants.
- Ongoing support and advice from the Waste Wise Schools team".

Grants are offered to Participating Waste Wise Schools for the development of waste minimisation projects. There are three consecutive grants available of \$2,000, \$5,000 and \$10,000. These funds can be used to assist the school in reducing waste to landfill and in educating the whole school community about sustainable waste practices. Schools must complete the Waste Wise full day professional learning workshop/external module, a waste audit, a waste policy and a waste plan to be eligible to apply for the first grant.

Contact details:

Email: wastewise@dec.wa.gov.au

Phone: (08) 6467 5139

Website: www.wastewise.wa.gov.au

6.3.6 MOBILE MUSTER

MobileMuster is the official national recycling program of the mobile phone industry in Australia. Initiated voluntarily by the telecommunications industry in 1999 its overall aim is to reduce the amount of mobile phones going to landfill. The program collects and recycles mobile phone handsets, batteries and accessories from a network of over 2000 mobile phone retailers, local councils, government agencies and businesses drop off points across Australia.

MobileMuster involves a number of organisations including:

- industry members who fund and support the program.
- over 3000 wranglers (e.g. mobile phone retail stores, ANZ Branches, service centres, local councils, state and federal government agencies and businesses) who help collect mobile phones.
- Australia Post who distributes free recycling satchels, just ask at the counter.
- numerous service providers who transport, recycle and process mobile phones, batteries and accessories.

The programme is funded by Australian Mobile Telecommunications Association members including:

- handset manufacturers - i-mate, LG Electronics, Motorola, Nokia, NEC, Panasonic, Samsung, Sharp, Sony Ericsson and RF Industries
- carriers - 3 Mobile, Optus, Telstra and Vodafone.
- service providers - AAPT and Virgin.
- distributors - Force Technology.

The recycling service is free to consumers, schools, businesses, local councils and government agencies.

MobileMuster will provide councils with collection bins, tools to help promote the muster (e.g., template media releases, fact sheets, brochures, posters, stickers, screensaver, mouse mats) and free pick up and exchange service. Local governments should:

- promote MobileMuster to staff, community and schools.
- run their own local muster/s (this can be a short term campaign over a couple of weeks or months).
- set up permanent public collection points; and/or encourage local businesses to join in.

Contact

Email mobilemuster@amta.org.au

Enquiries: 1300 730 070

Pick ups: 1800 249 113

Website: www.mobilemuster.com.au

6.3.7 EARTH CARERS

Earth Carers are volunteers who undergo training and educate the community about responsible waste management. They also run events and activities. The Western Metropolitan Regional Council (WMRC) funds and supports the Earth Carer Program. The WMRC employs two people to support the program. Mindarie Regional Council also has recently created an Earth Cares program.

Earth Carers work with schools, community organizations and commercial businesses to encourage and support environmentally sustainable behaviours in the Western Suburbs.

Activities include:

- Delivering presentations on composting, worm farming and reducing household waste.
- Holding information stalls and display at local events.
- Assisting retailers with the reduction of plastic bags and other initiatives.
- Assisting schools with developing curriculum based activities and on-ground establishment of waste management practices.
- Working with businesses to encourage recycling in the work place.

Contact

Anthea Paino

Email: anthea@wmrc.wa.gov.au

Phone: 0409 882 409

Website: www.wmrc.wa.gov.au/earthcarers

6.3.8 DRUM MUSTER PROGRAM

drumMUSTER is the National programme that has been established for the collection and recycling of cleaned, eligible, non returnable crop production and on-farm animal health chemical containers.

The National Farmers Federation (NFF), CropLife Australia, Animal Health Alliance (Australia) Ltd, VMDA and the Australian Local Government Association (ALGA) have together developed the initiative, the Industry Waste Reduction Scheme (IWRS), as the solution to the safe collection and recycling of cleaned chemical containers and the collection of unwanted rural, agricultural and veterinarian chemicals.

The program is funded by a levy on the sale of these containers. Councils are responsible for the inspection and collection of containers. A processor is then contracted by the Council to pick up and process the containers. The Council will be reimbursed for by the program for collection and approved costs.

All expenditure must receive prior approval from **drumMUSTER** and reimbursement is claimed in accordance with the Council/Collection Agency Agreement. Two quotes for materials and labour should be sought and faxed to **drumMUSTER** prior to any work being undertaken to receive approval for reimbursement from **drumMUSTER**.

Councils must sign up to the program. When they do they will receive a hardcopy manual and a communications kit. Councils are responsible for collecting and inspecting containers. Usually councils have set days on which containers can be dropped off. All containers have to be visually inspected by a trained person.

One day courses for staff or personnel appointed by councils to become inspectors are provided free of charge by **drumMUSTER**. The courses cover issues such as the eligible container logos, hazard identification assessment, inspections procedures and maintaining records. Re-accreditation training is required every 3 years.

Contact:

Claw Environmental

Phone: 08 9333 4888

e-mail: admin@clawenvironmental.com

Website: www.clawenvironmental.com

Graeme Passmore (Southern Western Australia Regional Consultant)

Phone: (08) 9319 3334

e-mail: graeme.passmore@brockmanvalley.com.au

Website: www.drummuster.com.au

6.3.9 CARTRIDGES FOR PLANET ARK

Recycling printer ink cartridges helps keep both valuable and potentially dangerous materials like plastics, foam, metal, inks, and toners out of landfill. Planet Ark organises the programme which supplies collection boxes to businesses and other organisations. Full boxes are picked up by courier and transported to Close the Loop®, an Australian high tech recycling and resource recovery company. From here, over 50% of the laser cartridges are sent to the original equipment manufacturers for their remanufacturing or component recovery programmes. The remaining cartridges are broken down and processed to recycle their component parts into new products. This process recovers materials such as aluminium, steel, plastics, foam, toner and ink without any waste going to landfill.

'Cartridges 4 Planet Ark' collects and processes all brands and all types of imaging consumables used in printers, photocopiers and fax machines. This includes:

- Inkjet cartridges.
- Laser cartridges.
- Toner bottles.
- Fuser and drum units.
- Print heads.
- Hoppers/containers/collectors and kits.
- Fax rolls.

For household and micro-businesses the easiest way to recycle cartridges is to take them to one of the retail drop off partners. These include participating Australia Post, Officeworks, Harvey Norman, Tandy and Dick Smith Electronics stores. In other areas local governments could get a box and be the local cartridge drop-off centre.

Businesses and organisations that use more than 3 cartridges a month can get a collection box by calling the Cartridges Hotline on 1800 242473 and registering. A free box is couriered with instructions for setting it up. Once the box is full the organisation calls the Hotline and a courier collects the cartridges or they can be left in an internal mail room for collection by Australia Post. Businesses can then be issued with a Resource Recovery Certificate, which shows, by weight, the amount of cartridges that have been kept out of landfill.

The Cartridges 4 Planet Ark programme is completely free for participating businesses and households. The program is sponsored by Lexmark, HP, Brother, Konica Minolta, Canon, Panasonic and Epson.

Contact

Phone: 1300 733 712

Website: www.recyclingnearyou.com.au

6.3.10 CITIES FOR CLIMATE PROTECTION AUSTRALIA

The Cities for Climate Protection Australia program assists local governments and their communities to reduce greenhouse gas emissions and maximise energy efficiency. CCP Australia is part of the international CCP program and is delivered by a partnership between the Australian

Government through the Department of Environment, Water, Heritage, and the Arts and the International Council for Local Environmental Initiatives (ICLEI) Oceania. Currently there are 231 councils participating in the CCP Australia program, representing over 84 % of Australia's population. Between 1997/98 and 2006/07, Australian councils have reduced CO₂e (carbon dioxide equivalent) emissions by over 13.3 million tonnes.

The CCP Australia program assists councils address climate change through a strategic milestone framework. Through the framework councils inventory their greenhouse gas emissions, set reduction goals, plan and implement actions, and monitor their progress. CCP Australia provides councils with technical and program support, resources, opportunities to network, exchange information and have their successes recognized.

Funding for the CCP Australia program comes from the Department of Environment, Water, Heritage, and the Arts. Councils are also charged a fee to participate at higher levels in the program, the lowest level is free. The higher levels provide more support and resources, however, the milestone framework is the same. The Department of Environment, Water, Heritage, and the Arts also provides grants and funding directly to councils for milestones and actions. These grants include up to \$50,000 Accelerated Action Grants and the \$4500 Inventory Grants.

Contact

Website: <http://www.environment.gov.au/settlements/local/ccp/index.html>

Website: <http://www.iclei.org/index.php?id=2291>

Phone: (03) 9639 8688

6.3.11 CLIMATE ACTIONS

ClimateActions project aims to reduce greenhouse gas emissions through energy and waste reduction in small-to-medium retail businesses and households in the communities. ClimateActions project was first piloted in 2005-06 in the Cities of Canning, Cockburn and Rockingham. The project engaged 36 small businesses in local centres. The project was part-funded by a Community Assistance Grant from the Department of Environment and Heritage. The businesses were provided free, confidential service to assist them with their own ideas that relate to energy and waste, and hence achieve greenhouse gas abatement. Later this model, which was based on the Enterprise Facilitation principles, was replicated in the Town of Victoria Park .

A larger project engaging more than 90 businesses is near completion. The project was initiated in March 2007 with \$99,347 support from the Commonwealth Government under its Low Emissions Technology and Abatement program.

The objectives of the project were to engage small businesses in local centres and help them to reduce their greenhouse gas (GHG) emissions through reduction in energy use and improved recycling practice. These small shops are often time and resource poor, and owners had difficulty in initiating implementing energy efficiency measures even if they were keen to do so.

Through the ClimateActions project, the small businesses were given much needed support and expert advice to realise their ideas and put effective measures in place. The project also included sending out information on energy, water and waste reduction to 1,500 households within walking distance of the participating businesses.

Participating businesses were given 'free and confidential' information on how to reduce energy use at their workplace. The approach involved a walk-through assessment of energy use and waste recycling practice, and filling in a survey questionnaire. Using the collected information, the SMRC's Green Enterprise Facilitator (GEF) identified energy saving options and assisted each business in achieving better energy efficiency.

In total, 91 businesses were engaged (93% success rate) and over 70% of businesses took actions to reduce their energy use and/or increased waste recycling. An estimated annual saving

of 5 tonnes of greenhouse gas emissions per business was achieved. The project experience indicated that face-to-face contact, building good relationships, assisting the businesses with sourcing of information/product/service, regular follow up and recognition of their good work were crucial for the success of the project.

The project was delivered in six SMRC member Councils – Cities of Canning, Cockburn, Fremantle and Rockingham and Towns of East Fremantle and Kwinana. Typical examples of business that participated in the project include: delis/lunch bars, butchers, liquor stores, chemists, cafés, fruit and vegetable stores and a bakery.

Examples of actions taken by the businesses to reduce their energy use are:

- Changing incandescent light globes to energy efficient light bulbs.
- Putting insulation on the hot water pipes.
- Upgrading old refrigerators to energy efficient ones.
- Getting rid of unnecessary refrigerators (mostly the ones provided by the vendors for free).
- Installing doors or plastic strips for the cool rooms.
- Installing timer on the drink fridges to keep them off overnight.
- Turning off unnecessary lights overnight.
- Training staff on energy efficiency practice.

Switching to 'Time of Use' tariff from 'flat tariff' (this does not save energy but significantly reduces energy bills for many businesses who have large 24 hours cooling loads)

Contact

Phone: 08 9329 2700

Email: info@climatewise.net.au

Website: www.climatewise.net.au

6.4 DEC RECOMMENDATIONS

6.4.1 DEC RECOMMENDATIONS - WAGIN GROUP

The following table summarises the recommendations made by the DEC following review of the Phase 1 data submission. Comments from the Wagin Group of Councils are included.

Matrix Area	Ref	Service Area / Issue	DEC Recommendations
Collaboration with other local governments and groupings of local governments	1	<p>(i) Service provision, infrastructure and plant.</p> <p>(ii) Unmanaged or marginally managed landfills that fall short of good environmental practice.</p> <p>(iii) Human resource, staff skills, training and development.</p> <p>(iv) Communications, awareness and learning.</p>	<p>Rationalisation of waste management services and infrastructure within a regional grouping might include consideration of the following examples:</p> <ul style="list-style-type: none"> Investigate opportunities to jointly tender contracts for the provision of waste services. Enabling joint contracting of waste management services can increase market power and enable resource sharing across the region. This could promote economies of scale and could lead to greater efficiencies in purchasing, resourcing and better waste management practices. e.g. consider jointly contracting a recycling service across the Wagin group of councils. <p><i>Agreed</i></p> <ul style="list-style-type: none"> Where external contractors are used to handle wastes and recyclables, consider aligning the timing of new waste contracts as existing contracts expire. <p><i>Agreed</i></p> <ul style="list-style-type: none"> Consider sharing infrastructure and plant between local governments, for example: <ul style="list-style-type: none"> - compactors/balers <p><i>Agreed</i></p> <ul style="list-style-type: none"> Where possible, share human resource skills on a regional basis through professional forums, site visits, formal training or the implementation of waste management programmes etc. <p><i>Agreed</i></p> <ul style="list-style-type: none"> Consider working with other local governments and DEC to promote and invigorate recycling. Contact your DEC Regional Coordinator who can assist in the development and delivery of consistent waste education and promotion material for Western Australia. <p><i>Agreed</i></p>
Drop-Off Facilities	5	<p>(5A) Waste Transfer Stations</p> <p>(5B) Paper & Cardboard</p> <p>(5C) Glass Containers</p>	<p>In Local Governments where no drop-off centres exist, investigate the feasibility of establishing a drop off centre.</p> <p><i>Agreed</i></p>

Matrix Area	Ref	Service Area / Issue	DEC Recommendations
		(5D) Plastics (5E) Metal (ferrous) (5F) Metal (non ferrous) (5G) Aluminium (5H) E-waste (5I) Greenwaste (5K) Batteries (auto and/or other)	<p>Where a drop-off service is limited, consider the feasibility of increasing the scope of materials that can already be dropped off for recovery at the local landfill or waste transfer station.</p> <p><i>Agreed</i></p> <p>Drop-off facilities and transfer stations are an integral part of storing and moving sorted waste within local governments. Managing transfer stations to service a number of local governments could reduce the cost of transporting sorted wastes. A transfer station might be designed to accept local government collected waste, as well as waste and recyclables direct from the community.</p> <p><i>The region already has an extensive network of recycling drop off facilities allowing most residents access to recycling. Off loading recyclables collected at verge side at a recycling transfer station will be considered for outlying areas.</i></p> <p>A well-designed transfer station should also be able to accept used engine oil.</p> <p><i>All regions have facilities for collection of used engine oil.</i></p> <p>A feature that may bring in extra funds to some local governments in the group is the inclusion of an area set aside for the sale of reusable items such as furniture, TV's and bric-a-brac. (An example of this exists in the Shire of Denmark where the Shire supports the recycling centre that is run by Greenskills.)</p> <p><i>Agreed</i></p>
Landfill Management	6	(6A) Number/Status	<p>(a) DEC has a strong preference for fewer well run landfills that are serviced, where necessary, by transfer stations, rather than multiple loosely-managed landfills. Working with other local governments may assist in identifying options for rationalising the number of landfills in your region.</p> <p><i>Agreed in principle. However the low volumes of waste and the minimal impact that these small landfills have on the overall environment if properly managed makes the continuation of many of these landfill more economically viable. Several landfills in sensitive environmental areas (adjacent to lakes) will be considered for closure. For the remaining landfills improved management techniques and allocation of funds to provide management will be recommended.</i></p>
Communication / Education	8	(8B) Publications / Flyers	<p>(b) A range of waste and recycling educational resources is available from www.zerowastewa.com.au. Local Governments are encouraged to access these. Regional groupings are encouraged to establish waste educator networks.</p> <p><i>Agreed</i></p>

6.4.2 DEC RECOMMENDATIONS - COUNCIL SPECIFIC

Council	Matrix Area	Ref	Service Area / Issue	DEC Recommendations
Dumbleyung Narrogin Shire Narrogin Town Pingelly Wagin Williams	Kerbside	2	2(E) Domestic recycling services	Where no kerbside recycling service is provided within the local government area consider investigating the feasibility and value of providing such service. <i>Disagree. Dumbleyung has a kerbside recycling service.</i> <i>Agreed. A regional approach to recycling will be investigated.</i>
Dumbleyung	Drop-Off Facilities	5	(5A) Waste Transfer Stations (5B) Paper & Cardboard (5C) Glass Containers (5D) Plastics (5E) Metal (ferrous) (5F) Metal (non ferrous) (5G) Aluminium (5H) E-waste (5I) Greenwaste (5K) Batteries (auto and/or other)	Investigate the feasibility of establishing drop-off centres, or where the service is limited, increasing the scope of materials that can already be dropped off for recovery at the local landfill or waste transfer station. <i>Disagree. Dumbleyung has a kerbside recycling service, drop off facilities at town halls and a cardboard drop off service.</i>
Cuballing (6E) Dumbleyung (6E) Lake Grace (6C,E) Narrogin Shire (6E) Narrogin Town (6E) Pingelly (6E) Wagin (6E) Wandering (6E) West Arthur (6E) Wickepin (6E) Williams (6E) Woodanilling (6C,E)	Landfill Management	6	(6C) Fenced (6E) Data Collection	(c) Where a landfill site is not fenced, erecting fencing around the sites will assist with the containment of windblown waste and security of access. <i>Agreed</i> (e) Consider developing and implementing a schedule of periodic waste audits. Regular waste audits can track progress and promote the efficient allocation of resources and actions for diverting waste from landfill and general waste management. <i>Agreed</i>
Cuballing (9D,E) Lake Grace (9D,E) Narrogin Shire (9D,E)	Local Government's Own Activities	9	(9B) Greenwaste (9C) Office Waste (9D) Data Collection &	DEC encourages local government to lead in the field of waste management and recycling, through the management of its own waste streams. Mechanisms you might consider to assist in this are listed

Council	Matrix Area	Ref	Service Area / Issue	DEC Recommendations
Narrogen Town (9B,D,E) Pingelly (9D,E) Wagin (9B,C,D) Wandering (9B,C,D) West Arthur (9B,D,E) Wickepin (9D) Williams (9C,D,E) Woodanilling (9D,E)			Reporting (9E) Sustainable Procurement Policy	below. (b) Look at options to produce mulch or compost from greenwaste to enable the products to be used by Local Government or the community. <i>Agreed</i> (c) Consider introducing a staff training program to increase the awareness and skills of Local Government personnel in respect to all aspects of waste management and recycling. <i>Agreed</i> (d) Conduct a waste audit of Local Government activities. An audit can then lead to the establishment of a suitable waste and recycling data management system. Contact your DEC Regional Coordinator for advice on where to get information on undertaking waste audits. To compliment auditing activities, an environmental achievement report can be included in a Local Government annual performance report to its ratepayers. <i>Agreed</i> (e) Develop and implement sustainable procurement policies and programs based on the purchase and use of recycled and/or recycled content products. <i>Agreed</i>
Cuballing (10B,C) Dumbleyung (10C,D) Lake Grace (10B,C,D) Narrogen Shire (10C,D) Narrogen Town (10C,D) Pingelly (10C,D) Wandering (10B,C,D) West Arthur (10B,C,D) Wickepin (10B,C,D) Williams (10B,C) Woodanilling (10B,C,D)	Participation in External Programs	10	(10B) ChemClear (10C) Mobile Muster (10D) Tidy Towns Sustainable Communities	In addition to the above activities, DEC would like to take this opportunity to alert local government to a number of waste related programs that you may like to participate in: <ul style="list-style-type: none"> o <u>ChemClear</u> - is a chemical waste disposal program, which, through industry stewardship, safely manages unwanted rural agricultural and veterinary chemicals. Contact 1800 008 182. www.chemclear.com.au o <u>MobileMuster</u> - is a national recycling program of the mobile phone industry in Australia. The programme collects and recycles mobile phone handsets, batteries and accessories. Contact 1800 249 113. www.mobilemuster.com.au o <u>Waste Wise Schools</u> - helps schools reduce the waste they send to landfill through encouraging attitudinal and behavioural change with respect to waste and the impact of waste on the

Council	Matrix Area	Ref	Service Area / Issue	DEC Recommendations
				<p>environment. The program includes resources and support for teachers. Contact Vanessa Dow on (08) 6467 5141. The participation of school students in this program has broader positive implications for the education of student households.</p> <ul style="list-style-type: none"> ○ <u>Tidy Towns</u> - is a national program run by Keep Australia Beautiful. The program is designed to encourage the Australian community to protect and conserve the natural environment through individual actions. Contact Deborah Cork (08) 6476 5131 (WA contact) ○ <u>Recycle@Work</u> – A Western Australian program provided by Amcor Recycling WA with the support of the State Government's Strategic Waste Initiative Scheme. Contact 1800 819 000. www.recycleatwork.com.au ○ <u>Cartridges for Planet Ark</u> - is a national multi-vendor used ink cartridge recycling campaign with collection boxes in participating corporate and government organisations Australia wide. Register on-line at www.closestheoop.com.au ○ <u>GreenStamp</u> – is an industry based program that assists small-to-medium-sized businesses to incorporate processes that avoid, reduce, reuse, recycle and dispose of waste in an environmentally friendly manner. The program is an initiative of the Motor Trade Association of Australia (MTA), the Printing Industries Association of Australia (PIAA) and Building Service Contractors Association of Australia (BSCAA) - WA Divisions respectively. Contact (08) 9361 4625 for more information. ○ <u>Swan Catchment Council (SCC)</u> – SCC is developing a national model to improve sustainable performance in small to medium enterprises (SME) including waste management and recycling. Contact (08) 9374 3314. ○ There are a number of web sites which provide details on companies which provide recycled/recyclable products. Visit - www.zerowastewa.com.au www.brba.com.au www.ecobuy.org.au <p><i>Noted</i></p>

7 IMPROVED WASTE MANAGEMENT PRACTICES

7.1 FORECAST OF MSW GENERATION IN 2012

The following table makes the assumption that the Region will adopt MGB recycling services and MGB garbage services for every resident in every town as a minimum. In doing so, the region's diversion of waste from landfill will increase from the current 2.7% to 15.5%.

YEAR 2012	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Expected Growth	%/ Year	0.50%	0.50%	1.50%	1.50%	1.50%	3.00%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	
Population	No.	1,492	648	1,984	429	922	992	4,556	891	770	837	1,256	382	15,160
Number of Households	No.	811	363	951	199	502	519	1,959	348	405	390	582	205	7,234
Total MSW Waste Collected	Tonnes	687	298	913	197	424	457	2,096	410	354	385	578	176	6,973
Total MSW Waste to Landfill	Tonnes	580	252	771	167	359	386	1,771	346	299	326	488	148	5,893
Total KS Waste Collected*	Tonnes	580	252	771	167	359	386	1,771	346	299	326	488	148	5,893
Total KS Waste to Landfill*	Tonnes	580	252	771	167	359	386	1,771	346	299	326	488	148	5,893
Total KS Dry Recyclables Collected*	Tonnes	106	46	141	31	66	71	325	64	55	60	90	27	1,081
Total Waste/ Person	Kgs/ Person	460	460	460	460	460	460	460	460	460	460	460	460	460
Total Waste/ Household	Kgs/ Household	847	821	960	992	845	880	1,070	1,177	874	987	993	855	964
Waste Diversion Rate	Percent	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%	15.5%

Reference

The Blue Book Australian Waste Industry 2007/08 Industry and Market Report, Tables 5.4 & 5.5 Waste Generation 2004/05, Pages 52 & 58. Recycling rate is 15.5% on Total MSW waste (Page 58)

8 BUDGET AND TIME FRAME

8.1 ISSUES, ACTIONS AND OUTCOMES FOR 2008-2013

Many initiatives have been identified that will improve the waste services provided to the region and assist in the diversion of waste from landfill. As with any improvement to services provided by local government there is a corresponding cost to the community. Paying for the excesses of society creates a cost burden that cannot be offset by revenue opportunities. The added cost to the community reflects the additional costs associated with the reduced impact on the natural environment.

The action points are itemised in the following table but are dependent on the Wagin Group of Councils having the ability to, through adequate resources, adopt and administer the Plan. Included in the Plan are improved waste and recycling services that remove recoverable resources from the landfill. Bulk verge collections for both green waste and hard waste should be considered. In the case of hard waste, collection collaboration with charities should be investigated to assist in the reuse of household furniture items.

All town residences should be provided with MGB recycling services and drop off facilities should be available in every town for use by rural residents.

All landfills should be fitted with security fences and lockable gates. Opening times should be restricted to allow control of access as well as servicing the needs of all residents, both town and country. Supervision should be provided when landfills are open where 1,000 tonne or more of waste is received each year.

To minimise environmental impact from landfilling operations DEC licence requirements should not only be met but surpassed. The burning of green waste should be stopped and a regional approach to the processing and reuse of green waste be investigated. Open waste pits should be enclosed using portable litter fences with closable gates to minimise the size of the tip face, access by vermin, reduce litter and provide safety to the public. These portable gates should be closed when the landfill is closed and open when the landfill is open.

Waste should be pushed in and compacted and landfill cover applied to the active tipping area after every occasion that a municipal waste truck empties at the landfill. Municipal waste should not be left uncovered.

Source separation of waste streams should be encouraged at all landfills. A regional approach will be required to secure economies in resource recovery services throughout the region.

Documentation is required to provide guidance to the Councils and their staff in the most appropriate methods to manage the landfills.

A regional waste and recycling collection contract may not be feasible across the entire Wagin region but industry should be given the option of either providing waste services to the entire region or to specific zones within the Wagin region.

Consideration should be given to the Wagin Group of Councils providing infrastructure for the processing of recyclables and seek funding for the infrastructure from the DEC. The Wagin Group of Councils will be required to provide evidence that they can fund ongoing waste management operations in the event that funding is secured for infrastructure.

Any decision to establish a regional MRF should be made after an announcement from the Minister for Environment and Climate Change regarding the Government's intentions on Container Deposit Schemes. The current understanding is that a container deposit scheme will be introduced to WA during the term of the Plan.

Inspections of the landfills and submissions from the resident questionnaire suggest that very little green waste and kitchen scraps are landfilled. In contrast the communities are very active in home composting and most have back yard chicken coups that consume kitchen waste.

The introduction of an MGB recycling service will remove a considerable portion of the waste stream from the MSW MGB. The replacement of the current 240L MGB with a 140L MGB should be investigated. In most Councils the 240L MGB waste bin is provided by the contractor and can easily be replaced with either a Council owned or Contractor provided replacement 140L MGB. Detailed waste audits should be undertaken across the region prior to decisions being made.

Landfills close to surface water bodies or in areas of sensitive land use should be closed. Varley, Newdegate, Wagin and North Bannister should be considered for closure. Newdegate landfill will require either relocation or the introduction of a transfer station to transfer the waste to either Lake Grace or Lake King. Varley will require the introduction of transfer stations to transfer the waste to either Lake Grace or Lake King. Wagin will require an alternate site or build a transfer station and negotiate an arrangement with the Town of Narrogin for waste disposal. North Bannister residents and the Half Way Roadhouse will have to receive alternative waste disposal services in consultation with the Shire of Wandering.

8.2 WAGIN GROUP EXPENDITURE BUDGET

No.	Initiative	Whom Responsible	In-Kind or Expensed	Capital	External Funding	Total Budget
	EXPENDITURE		\$2,925,000	\$2,830,000	\$1,310,000	\$7,065,000
1	Develop a regional approach to waste management	Wagin Group	\$0	\$420,000	\$35,000	\$455,000
	<i>Regional Waste Management Council</i>	<i>Wagin Group</i>	<i>\$0</i>	<i>\$0</i>	<i>\$35,000</i>	<i>\$35,000</i>
	<i>To appoint a dedicated waste management officer</i>	<i>Wagin Group</i>		<i>\$350,000</i>	<i>\$0</i>	<i>\$350,000</i>
	<i>Investigate a Regional Landfill Site</i>	<i>Wagin Group</i>		<i>\$70,000</i>	<i>\$0</i>	<i>\$70,000</i>
2	Prepare Generic Landfill Management Plan	Wagin Group	\$0	\$15,000	\$0	\$15,000
3	Prepare Site Specific Landfill Procedures	Wagin Group	\$0	\$15,000	\$0	\$15,000
4	Investigate a regional approach to processing/reusing greenwaste	Wagin Group	\$0	\$0	\$30,000	\$30,000
5	Establish a regional approach to processing greenwaste	Wagin Group	\$0	\$0	\$500,000	\$500,000
6	Develop new landfill site for Newdegate	Lake Grace	\$100,000	\$100,000	\$0	\$200,000
7	Close Wagin Landfill, rehabilitate and find a new site	Wagin	\$150,000	\$350,000	\$0	\$500,000
8	Close Tincurrin Landfill and replace with transfer station to take waste to Harrismith	Wickepin	\$50,000	\$100,000	\$0	\$150,000
9	Close North Bannister Landfill and rehabilitate. Roadhouse needs to make own arrangements for waste disposal with Council support	Wandering	\$0	\$0	\$20,000	\$20,000
10	Fence and fit lockable gates to all landfills to control access	Wagin Group	\$0	\$200,000	\$0	\$200,000
	<i>Lake King Landfill</i>	<i>Lake Grace</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Dumbleyung Landfill</i>	<i>Dumbleyung</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Kukerin Landfill</i>	<i>Dumbleyung</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Woodanilling Landfill</i>	<i>Woodanilling</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Duranillin Landfill</i>	<i>West Arthur</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Wickepin Landfill</i>	<i>Wickepin</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Harrismith Landfill</i>	<i>Wickepin</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Yealering Landfill</i>	<i>Wickepin</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Popanyinning Landfill</i>	<i>Cuballing</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
	<i>Wandering Landfill</i>	<i>Wandering</i>	<i>\$0</i>	<i>\$20,000</i>	<i>\$0</i>	<i>\$20,000</i>
11	Man all landfills during opening times	Wagin Group	\$960,000	\$0	\$0	\$960,000
12	Introduce DrumMUSTER across the entire region	Woodanilling	\$0	\$0	\$0	\$0
13	Install portable litter fences around all open pit landfills	Wagin Group	\$0	\$80,000	\$0	\$80,000
14	At all manned landfills establish a shed for the storage of recovered furniture and other usable items		\$0	\$300,000	\$0	\$300,000
	<i>Lake Grace Landfill</i>	<i>Lake Grace</i>	<i>\$0</i>	<i>\$35,000</i>	<i>\$0</i>	<i>\$35,000</i>
	<i>Lake King Landfill</i>	<i>Lake Grace</i>	<i>\$0</i>	<i>\$35,000</i>	<i>\$0</i>	<i>\$35,000</i>
	<i>Dumbleyung Landfill</i>	<i>Dumbleyung</i>	<i>\$0</i>	<i>\$35,000</i>	<i>\$0</i>	<i>\$35,000</i>
	<i>Wagin Landfill</i>	<i>Wagin</i>	<i>\$0</i>	<i>\$35,000</i>	<i>\$0</i>	<i>\$35,000</i>
	<i>Woodanilling Landfill</i>	<i>Woodanilling</i>	<i>\$0</i>	<i>\$32,000</i>	<i>\$0</i>	<i>\$32,000</i>
	<i>Darkan Landfill</i>	<i>West Arthur</i>	<i>\$0</i>	<i>\$32,000</i>	<i>\$0</i>	<i>\$32,000</i>
	<i>Narrogin Landfill</i>	<i>Narrogin</i>	<i>\$0</i>	<i>\$32,000</i>	<i>\$0</i>	<i>\$32,000</i>
		<i>Town</i>				
	<i>Pingelly Landfill</i>	<i>Pingelly</i>	<i>\$0</i>	<i>\$32,000</i>	<i>\$0</i>	<i>\$32,000</i>
	<i>Wandering Landfill</i>	<i>Wandering</i>	<i>\$0</i>	<i>\$32,000</i>	<i>\$0</i>	<i>\$32,000</i>
15	During rehabilitation of landfills recover light metals and recycle		\$0	\$75,000	\$0	\$75,000
	<i>Duranillin Landfill</i>	<i>West Arthur</i>	<i>\$0</i>	<i>\$10,000</i>	<i>\$0</i>	<i>\$10,000</i>
	<i>Popanyinning Landfill</i>	<i>Cuballing</i>	<i>\$0</i>	<i>\$10,000</i>	<i>\$0</i>	<i>\$10,000</i>
	<i>Wickepin Landfill</i>	<i>Wickepin</i>	<i>\$0</i>	<i>\$40,000</i>	<i>\$0</i>	<i>\$40,000</i>

No.	Initiative	Whom Responsible	In-Kind or Expensed	Capital	External Funding	Total Budget
	<i>Harrismith Landfill</i>	<i>Wickepin</i>	\$0	\$15,000	\$0	\$15,000
16	Develop a recycling option for the drill mud drums at Varley	Lake Grace	\$0	\$0	\$10,000	\$10,000
17	Establish a regional tyre recovery service	Wagin Group	\$10,000	\$0	\$0	\$10,000
18	Accept source separated fencing wire at all landfills	Wagin Group	\$20,000	\$0	\$0	\$20,000
	<i>Dumbleyung Landfill</i>	<i>Dumbleyung</i>	\$10,000	\$0	\$0	\$10,000
	<i>Kukerin Landfill</i>	<i>Dumbleyung</i>	\$10,000	\$0	\$0	\$10,000
19	Collect wet cell batteries at all landfills	Wagin Group	\$30,000	\$0	\$0	\$30,000
	<i>Lake King Landfill</i>	<i>Lake Grace</i>	\$5,000	\$0	\$0	\$5,000
	<i>Dumbleyung Landfill</i>	<i>Dumbleyung</i>	\$5,000	\$0	\$0	\$5,000
	<i>Woodanilling Landfill</i>	<i>Woodanilling</i>	\$5,000	\$0	\$0	\$5,000
	<i>Darkan Landfill</i>	<i>West Arthur</i>	\$5,000	\$0	\$0	\$5,000
	<i>Duranillin Landfill</i>	<i>West Arthur</i>	\$5,000	\$0	\$0	\$5,000
	<i>Pingelly Landfill</i>	<i>Pingelly</i>	\$5,000	\$0	\$0	\$5,000
20	Investigate DEC/WALGA household chemical collection services	Wagin Group	\$0	\$0	\$50,000	\$50,000
21	Establish drop off facilities in every town	Wagin Group	\$0	\$40,000	\$0	\$40,000
	<i>Varley, Lake King and Newdegate</i>	<i>Lake Grace</i>	\$0	\$30,000	\$0	\$30,000
	<i>Wagin</i>	<i>Wagin</i>	\$0	\$10,000	\$0	\$10,000
22	Introduce kerbside recycling to every town in the region		\$960,000	\$550,000	\$0	\$1,510,000
	<i>Lake Grace</i>	<i>Lake Grace</i>	\$110,000	\$75,000	\$0	\$185,000
	<i>Woodanilling</i>	<i>Woodanilling</i>	\$110,000	\$75,000	\$0	\$185,000
	<i>Williams</i>	<i>Williams</i>	\$120,000	\$80,000	\$0	\$200,000
	<i>Narrogin Town</i>	<i>Narrogin Town</i>	\$280,000	\$120,000	\$0	\$400,000
	<i>Narrogin Shire</i>	<i>Narrogin Shire</i>	\$100,000	\$50,000	\$0	\$150,000
	<i>Cuballing</i>	<i>Cuballing</i>	\$120,000	\$70,000	\$0	\$190,000
	<i>Pingelly</i>	<i>Pingelly</i>	\$120,000	\$80,000	\$0	\$200,000
23	Establish a bulk waste collection service for green waste and hard waste	Wagin Group	\$630,000	\$0	\$0	\$630,000
24	Collaboration with Charitable institution for reuse of household items	Wagin Group	\$0	\$0	\$0	\$0
25	Waste Audits to verify waste consistency in MSW Waste	Wagin Group	\$0	\$0	\$100,000	\$100,000
26	With the introduction of the 240L MGB for recycling consider reducing the size of the MSW MGB to 140L	Wagin Group	\$0	\$400,000	\$0	\$400,000
27	Investigate the establishment of a regional MRF at the Narrogin Landfill	Wagin Group	\$0	\$30,000	\$0	\$30,000
28	Establishment of a regional MRF at the Narrogin Landfill	Wagin Group	\$0	\$0	\$500,000	\$500,000
29	Establish cardboard recycling opportunities for commercial premises	Wagin Group	\$0	\$0	\$0	\$0
30	Promote and publicise recycling to residents	Wagin Group	\$0	\$125,000	\$0	\$125,000
31	Introduce Waste Wise Schools programme to every School in the region	Wagin Group	\$0	\$0	\$0	\$0
32	Develop a generic Sustainability Policy for the region	Wagin Group	\$0	\$30,000	\$0	\$30,000
33	WMPs for Developments	Wagin Group	\$5,000	\$0	\$50,000	\$55,000
34	WMPs for Broad Acre Farms	Wagin Group	\$0	\$0	\$15,000	\$15,000
35	Consider the development of a central landfill at Yornaning	Cuballing	\$10,000	\$0	\$0	\$10,000

8.3 WAGIN GROUP OPERATIONS TIME LINE

ID	Task Name	Duration	Start	Finish	2008	2009	2010	2011	2012	2013
1	EXPENDITURE TIMELINE	912 days	Thu 2/04/09	Fri 28/09/12						
2	1. Develop a regional approach to waste management	912 days	Thu 2/04/09	Fri 28/09/12						
3	2. Prepare Generic Landfill Management Plan	67 days	Thu 2/07/09	Fri 2/10/09						
4	3. Prepare Site Specific Landfill Procedures	67 days	Mon 5/10/09	Tue 5/01/10						
5	4. Investigate a regional approach to processing reusing greenwaste	95 days	Mon 3/08/09	Fri 11/12/09						
6	5. Establish a regional approach to processing reusing greenwaste	535 days	Mon 14/12/09	Fri 30/12/11						
7	6. Relocate Newdegate Landfill.	543 days	Wed 1/09/10	Fri 28/09/12						
8	7. Close Wagin Landfill, rehabilitate and find a new site	543 days	Wed 1/09/10	Fri 28/09/12						
9	8. Close Tincurrin Landfill and replace with transfer station to take waste	543 days	Wed 1/09/10	Fri 28/09/12						
10	9. Close North Bannister Landfill and rehabilitate. Roadhouse needs to	67 days	Thu 2/07/09	Fri 2/10/09						
11	10. Fence and fit lockable gates to all landfills to control access	67 days	Wed 2/09/09	Thu 3/12/09						
12	11. Man all landfills during opening times	543 days	Wed 1/09/10	Fri 28/09/12						
13	12. Introduce DrumMUSTER across the entire region	109 days	Mon 6/04/09	Thu 3/09/09						
14	13. Install portable litter fences around all open pit landfills	109 days	Mon 6/04/09	Thu 3/09/09						
15	14. At all manned landfills establish a shed for the storage of recovered	130 days	Wed 1/09/10	Tue 1/03/11						
16	15. During rehabilitation of landfills recover light metals and recycle	67 days	Tue 2/06/09	Wed 2/09/09						
17	16. Develop a recycling option for the drill mud drums at Varley	67 days	Tue 2/06/09	Wed 2/09/09						
18	17. Establish a regional tyre recovery service	109 days	Mon 6/04/09	Thu 3/09/09						
19	18. Accept source separated fencing wire at all landfills	109 days	Mon 4/05/09	Thu 1/10/09						
20	19. Collect wet cell batteries at all landfills	109 days	Mon 4/05/09	Thu 1/10/09						
21	20. Investigate DEC/WALGA household chemical collection services	109 days	Mon 4/05/09	Thu 1/10/09						
22	21. Establish drop off facilities in every town	393 days	Wed 2/12/09	Fri 3/06/11						
23	22. Introduce kerbside recycling to every town in the region	735 days	Wed 2/12/09	Tue 25/09/12						
24	23. Establish a bulk waste collection service for green waste and hard v	735 days	Wed 2/12/09	Tue 25/09/12						
25	24. Collaboration with Charitable institution for reuse of household items	393 days	Thu 2/07/09	Mon 3/01/11						
26	25. Waste Audits to verify waste consistency in MSW Waste	87 days	Thu 2/07/09	Fri 30/10/09						
27	26. With the introduction of the 240L MGB for recycling consider reduci	393 days	Tue 2/06/09	Thu 2/12/10						
28	27. Investigate the establishment of a regional MRF at the Narrogin Lar	93 days	Tue 2/06/09	Thu 8/10/09						
29	28. Establishment of a regional MRF at the Narrogin Landfill	393 days	Fri 9/10/09	Tue 12/04/11						
30	29. Establish cardboard recycling opportunities for commercial premise:	109 days	Fri 1/05/09	Wed 30/09/09						
31	30. Promote and publicise recycling to residents	735 days	Wed 2/12/09	Tue 25/09/12						
32	31. Introduce Waste Wise Schools programme to every School in the re	262 days	Tue 2/06/09	Wed 2/06/10						
33	32. Develop a generic Sustainability Policy for the region	67 days	Mon 3/08/09	Tue 3/11/09						
34	33. WMPs for Developments	103 days	Mon 4/05/09	Wed 23/09/09						
35	34. WMPs for Broad Acre Farms	67 days	Mon 4/05/09	Tue 4/08/09						
36	35. Consider the development of a central landfill at Yormaning	67 days	Mon 4/05/09	Tue 4/08/09						

8.4 WAGIN GROUP EXPENDITURE CASH FLOW

	2008	2009	2010	2011	2012	Total
EXPENDITURE TIMELINE						
1. Develop a regional approach to waste management		\$97,785.09	\$130,213.82	\$129,714.91	\$97,286.18	\$455,000.00
2. Prepare Generic Landfill Management Plan		\$15,000.00				\$15,000.00
3. Prepare Site Specific Landfill Procedures		\$14,328.36	\$671.64			\$15,000.00
4. Investigate a regional approach to processing reusing greenwaste		\$30,000.00				\$30,000.00
5. Establish a regional approach to processing reusing greenwaste		\$13,084.11	\$243,925.23	\$242,990.65		\$500,000.00
6. Relocate Newdegate Landfill			\$32,412.52	\$95,764.27	\$71,823.20	\$200,000.00
7. Close Wagin Landfill, rehabilitate and find a new site			\$81,031.31	\$239,410.68	\$179,558.01	\$500,000.00
8. Close Tincurrin Landfill and replace with transfer station to take waste to Harrismith			\$24,309.39	\$71,823.20	\$53,867.40	\$150,000.00
9. Close North Bannister Landfill and rehabilitate. Roadhouse needs to make own arrangements for waste disposal with Council support		\$20,000.00				\$20,000.00
10. Fence and fit lockable gates to all landfills to control access		\$200,000.00				\$200,000.00
11. Man all landfills during opening times			\$155,580.11	\$459,668.51	\$344,751.38	\$960,000.00
12. Introduce DrumMUSTER across the entire region						
13. Install portable litter fences around all open pit landfills		\$80,000.00				\$80,000.00
14. At all manned landfills establish a shed for the storage of recovered furniture and other usable items			\$203,076.92	\$96,923.08		\$300,000.00
15. During rehabilitation of landfills recover light metals and recycle		\$75,000.00				\$75,000.00
16. Develop a recycling option for the drill mud drums at Varley		\$10,000.00				\$10,000.00
17. Establish a regional tyre recovery service		\$10,000.00				\$10,000.00
18. Accept source separated fencing wire at all landfills		\$20,000.00				\$20,000.00
19. Collect wet cell batteries at all landfills		\$30,000.00				\$30,000.00
20. Investigate DEC/WALGA household chemical collection services		\$50,000.00				\$50,000.00
21. Establish drop off facilities in every town		\$2,239.19	\$26,564.89	\$11,195.93		\$40,000.00
22. Introduce kerbside recycling to every town in the region		\$45,197.28	\$536,204.08	\$534,149.66	\$394,448.98	\$1,510,000.00
23. Establish a bulk waste collection service for green waste and hard waste		\$18,857.14	\$223,714.29	\$222,857.14	\$164,571.43	\$630,000.00
24. Collaboration with Charitable institution for reuse of household items						
25. Waste Audits to verify waste consistency in MSW Waste		\$100,000.00				\$100,000.00
26. With the introduction of the 240L MGB for recycling consider reducing the size of the MSW MGB to 140L		\$155,725.19	\$244,274.81			\$400,000.00
27. Investigate the establishment of a regional MRF at the Narrogin Landfill		\$30,000.00				\$30,000.00
28. Establishment of a regional MRF at the Narrogin Landfill		\$76,335.88	\$332,061.07	\$91,603.05		\$500,000.00
29. Establish cardboard recycling opportunities for commercial premises						
30. Promote and publicise recycling to residents		\$3,741.50	\$44,387.76	\$44,217.69	\$32,653.06	\$125,000.00
31. Introduce Waste Wise Schools programme to every School in the region						
32. Develop a generic Sustainability Policy for the region		\$30,000.00				\$30,000.00
33. WMPs for Developments		\$55,000.00				\$55,000.00
34. WMPs for Broad Acre Farms		\$15,000.00				\$15,000.00
35. Consider the development of a central landfill at Yornaning		\$10,000.00				\$10,000.00
Total		\$1,207,293.73	\$2,278,427.83	\$2,240,318.78	\$1,338,959.65	\$7,065,000.00

8.5 TABLE OF ACTIONS AND OUTCOMES

ISSUE	ACTION/RESPONSE	OUTCOMES	RESPONSIBILITY
Regional Collaboration	Regional Waste Management Council	Review of other Regional Waste Management Council structures and make recommendations to form Wagin Regional Waste Management Council for the future implementation of strategic waste initiatives	Wagin Group
	Dedicated waste management officer	Appoint either an officer or consultant to oversee the adoption of the Strategic Waste Management Plan	Wagin Group
	Regional Landfill Site	Review potential sites which could be considered for a future regional landfill	Wagin Group
Landfills	Landfill Management	Prepare Generic Landfill Management Plan	Wagin Group
	Landfill Operation	Prepare Site Specific Landfill Procedures	Wagin Group
	Stop Burning Greenwaste	Investigate a regional approach to processing/reusing greenwaste	Wagin Group
	Improve Environmental Consequence of Landfilling	Relocate Newdegate Landfill to another site	Lake Grace
	Improve Environmental Consequence of Landfilling	Close Wagin Landfill, rehabilitate and find a new site	Wagin
	Improve Environmental Consequence of Landfilling	Close Tincurrin Landfill and replace with transfer station to take waste to Harrismith	Wickepin
	Improve Environmental Consequence of Landfilling	Close North Bannister Landfill and rehabilitate. Roadhouse needs to make own arrangements for waste disposal with Council support	Wandering
	Fence and lock landfills	Fence and fit lockable gates to all landfills to control access	Wagin Group
	Man Landfills (8 landfills)	Man all landfills during opening times	Wagin Group
	DrumMUSTER	Introduce DrumMUSTER across the entire region	Woodanilling

ISSUE	ACTION/RESPONSE	OUTCOMES	RESPONSIBILITY
	Litter Fences	Install portable litter fences around all open pit landfills	Wagin Group
	Resource Recovery Facility	At all manned landfills establish a shed for the storage of recovered furniture and other usable items	Wagin Group
	Recovery of light metals	During rehabilitation of landfills recover light metals and recycle	Wagin Group
Problematic Wastes	Drill Mud Drums	Develop a recycling option for the drill mud drums at Varley	Lake Grace
	Used Tyres	Establish a regional tyre recovery service	Wagin Group
	Fencing Wire	Accept source separated fencing wire at all landfills	Wagin Group
	Batteries	Collect wet cell batteries at all landfills	Wagin Group
	Household Hazardous Waste	Investigate DEC/WALGA household chemical collection services	Wagin Group
Waste Services	Drop Off Centres	Establish drop off facilities in every town	Wagin Group
	Vergeside Bulk Waste Collection (6,306 services)	Establish a bulk waste collection service for green waste and hard waste	Wagin Group
	Furniture Recovery	Collaboration with Charitable institution for reuse of household items	Wagin Group
	Waste Audits	Waste Audits to verify waste consistency in MSW Waste	Wagin Group
	Kerbside Recycling	Introduce kerbside recycling to every town in the region	Wagin Group
	Reduce size of Waste Bin	With the introduction of the 240L MGB for recycling consider reducing the size of the MSW MGB to 140L	Wagin Group
	Regional Materials Recycling Facility	Investigate the establishment of a regional MRF at the Narrogin Landfill	Wagin Group
	Commercial cardboard recycling	Establish cardboard recycling opportunities for commercial premises	Wagin Group
	Increase participation in recycling	Promote and publicise recycling to residents	Wagin Group

ISSUE	ACTION/RESPONSE	OUTCOMES	RESPONSIBILITY
	Waste Wise Schools Programme	Introduce Waste Wise Schools to every School in the region	Wagin Group
Sustainability	Sustainability Policy	Develop a generic Sustainability Policy for the region	Wagin Group
WMPs for Developments	Work with the WALGA to identify legislation under the WARR Act to make WMPs mandatory for all developments across the state.	Legislation to make WMPs for developments mandatory.	Wagin Group

9 REVENUE ANALYSIS

9.1 CURRENT RATES CHARGES

2008-09	Unit	Lake Grace	Dumbleyung	Wagin	Woodanilling	West Arthur	Williams	Narrogin (T)	Narrogin (S)	Wickepin	Cuballing	Pingelly	Wandering	Wagin Group
Population	No.	1,456	632	1,846	399	858	863	4,238	829	716	779	1,168	355	14,139
Number of Households	No.	791	354	885	185	467	451	1,822	324	377	363	541	191	6,751
Number of Services	No.	467	168	753	61	214	295	3,071	167	188	0	572	58	6,014
Waste Contractor	Name	GSWD	GSWD	GSWD	GSWD	GSWD	Avon	GSWD	GSWD	In House	Nil	GSWD	Avon	
Cost per Household (Garbage)	\$ p.a.	\$77.22	\$68.64	\$64.00	\$300.00	\$101.44	\$62.92	\$52.00	\$93.60	Unknown	\$0.00	\$70.20	\$78.00	
Recycling Contractor	Name	WBW	WBW	GSWD	Nil	GSWD	Nil	Nil	Nil	Nil	Nil	GSWD	Avon	
Cost per Household (Recycling)	\$ p.a.	\$98.02	\$108.68	\$16.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.86	\$39.78	
Recycling Drop Off Centre	Name	WBW	WBW	GSWD	In House	GSWD	Avon	GSWD	Nil	In House	GSWD/Avon	GSWD	Avon	
Cost per Household (Drop Off)	\$ p.a.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.13	\$0.00	\$0.00	\$127.32	\$97.92	\$0.00	\$0.00	
Total Collection Cost per Household	\$ p.a.	\$175.24	\$177.32	\$80.85	\$300.00	\$101.44	\$75.05	\$52.00	\$93.60	Unknown	\$97.92	\$99.06	\$117.78	
Rates (Waste) per Household	\$ p.a.	\$158.60	\$172.00	\$210.00	\$200.00	\$110.00	\$230.00	\$160.00	\$160.00	\$110.50	\$356.14	\$225.00	\$180.00	\$173.66
Revenue from Garbage Rates	\$ p.a.	\$74,066	\$28,896	\$158,130	\$12,200	\$23,540	\$67,850	\$491,360	\$26,720	\$22,502	\$0	\$128,700	\$10,440	\$1,044,404

Key:

Great Southern Waste Disposal GSWD

Warren Blackwood Waste WBW

Avon Waste Avon

Notes:

West Arthur recycling service is a fortnightly kerbside collection at no cost to Shire. Collection done using light vehicle.

9.2 FUNDING OF THE PLAN

From the above table it has been estimated that the current revenue from garbage charges is around \$1.0Million for the Wagin Region. This equates to around \$173 per household. A typical garbage charge for a household receiving a complete waste service, including bulk verge collections and recycling services, is around \$220 per annum. Therefore the residents in the Wagin Region could be expected to pay an additional \$50 per service (on average) to receive a complete waste service provided waste services are improved.

An increase of an average of \$50 per service over the region would provide an additional \$300,000 per annum. Levying a garbage charge on rural properties to cover use of the drop off facilities and the landfills could raise a further \$11,000 per year (\$25 at 445 properties). Over the last four years of the Plan \$1.2Million could be raised.

When considering funding opportunities from the DEC and borrowed capital for infrastructure such as bins, building and plant with long amortisation periods a feasible cash flow for the adoption of the Plan could be realised.

10 MONITORING AND REVIEW

10.1 PERIODIC PERFORMANCE MONITORING

The Plan will be monitored as an agenda item of the Wagin Group Committee. The performance of the Plan will be assessed annually by evaluating the diversion rate from landfill of total MSW waste generated from within the Wagin Group Councils.

The Plan nominates that in five years the Wagin Group Councils could be achieving 15.5% diversion from landfill of municipal waste generated. This diversion rate is conditional on the success of the Plan in achieving its objectives.

10.2 WASTE MANAGEMENT PLAN REVIEW PROCESSES

The Wagin Group Committee will be a group of senior Council employees that meet on a regular basis to co-ordinate the activities of the Wagin Group Councils regarding the administration of the Plan. The Issues, Actions and Outcomes detailed in the Plan will be included as an agenda item of the Wagin Group Committee and reviewed at each meeting.

On an annual basis the waste diversion rate from landfill will be calculated using the same logic used during the preparation of the Plan. The performance of the Wagin Group Councils in meeting the diversion rates as detailed in the Plan will be reviewed and appropriate action initiated.

11 APPENDICES

11.1 CURRENT LANDFILL PRACTICES

Following is a series of photographs taken recently when visiting the 21 landfills in the Wagin Region. The photos show both good and bad landfill practices.



Open pit municipal waste pit showing evidence of waste being burnt, light metals, steel drums chemical drums thrown in the waste pit and leachate lying in the open pit. The chemical drums should be collected during DrumMUSTER, the fencing wire and steel drums in two source separated stockpiles and storm water runoff from the site diverted away from the waste pit.



An open pit with cut material stockpiled each side of the pit to protect the pit and restrict the access to the pit to one end only. Waste has been pushed into pit and covered with cover material from one end. This is a well managed open pit.



Portable litter fence was once erected around this waste pit. The landfill is not locked and has no supervision. Many of the panels had been stolen prior to our visit with the remaining panels stolen after our visit. These were well made panels and would have had a long service life as movable portable litter screens. Landfills need to be locked when not under supervision.



Source separated fencing wire in readiness for collection by scrap metal merchant.



Landfill reception station where the landfill attendant greets all landfill users and provides instruction on resource recovery and waste disposal. The area is clean and uncluttered presenting a responsible and professional presence to visitors to the landfill.



Waste pit that has been burnt and contains sheet metal, tyres, steel drums.



Tyres stockpiled at a landfill in close proximity to a surface water body. Contractors are available that will collect tyres from rural location for around \$2.00 per tyre.



Mixed waste including white goods, furniture and green waste in an open pit landfill. These waste streams should be separated for resource recovery.



Oil recycling station at an unsupervised landfill. The presence of an attendant at the landfill while the landfill is open would provide the labour resource to attend to housekeeping which leads to environmental compliance.



Source separated white goods, fence wire and light metals enclosed at the rear by a litter fence. The appearance is that the Council is managing the facility and minimising its environmental impact.



At the time of construction this would have been an impressive litter fence around this waste pit. Over time the fence has deteriorated and now serves no useful purpose and allows access to the waste pit from multiple locations. Good landfill management and supervision would allow this fence to be maintained.



Unprofessional signage and no supervisor has resulted in several large concrete footings to be placed in the municipal waste pit directly behind a sign stating otherwise. Supervision and restricted opening times will help conserve airspace consumption.



Light metal and fence wire dumped across a landfill site. Recovery of light metals should be done as part of the rehabilitation of landfills.

11.2 DROP OFF CENTRES IN THE REGION

The Councils in the region and their staff have been industrious in setting up recycling drop off facilities throughout the region. This provides most communities including rural residents an opportunity to recycle. Following are several examples of the innovative measures taken to provide a recycling drop off service.



A typical shed being erected in the Wagin region to be used as a resource recovery and drop off facility. A shed such as this can be erected for around \$25,000.





These recycling bins are in very poor condition and send the wrong message to rate payers.



Wickepin materials recovery facility.









Recycling MGBs secured with a long chain through the handles and padlocked. Unfortunately the fence panels are also attractive to thieves with most of the panels now stolen from the site.



11.3 ADOPTION OF THE PLAN

The Wagin Group of Councils have reviewed the various drafts of the Plan and have provided the following comments regarding the Plan's adoption:

	Council	Date	Details
1	Shire of Wagin	16.09.08	Authorised the consultant to present the Plan to the DEC on the Council's behalf by 30.09.08
2	Town of Narrogin	27.03.09	Adopted final version of the Plan
3	Shire of Cuballing	23.09.08	Endorsed the Plan based on the resolutions of the Wagin Group meeting of the 4.09.08
4	Shire of Wandering	25.09.08	Council supported the adoption of the Plan at meeting held in prior week
5	Shire of Lake Grace	25.03.09	Council adopted the Plan
6	Shire of Pingelly	25.09.08	Supported the Plan at it September meeting subject to minor amendments
7	Shire of Williams	17.09.08	Endorsed the Draft Plan.
8	Shire of Wickepin	4.09.08	Resolution No. 170908.10. Plan is endorsed
9	Shire of West Arthur	Sept 2008	Council adopted the Plan
10	Shire of Woodanilling	16.09.08	Council endorsed the Plan
11	Shire of Dumbleyung	March 2009	Council adopted the Plan
12	Shire of Narrogin	31.12.08	Adopted the Plan with modification

11.4 LETTERS OF SUPPORT

Resolution of the Shire of Wagin concerning the Regional Strategic Waste Management Plan passed on Tuesday 16 September, 2008

1. Notes the recommendations in Section 5.2 of the Report beginning on page 18 which refer to actions required of individual Councils and suggests that these recommendations be used as a basis for the development of a waste management plan for each Council for implementation before the end of the year.
2. Endorses the recommendations contained in Section 6.4, tables 6.4.1 and 6.4.2 of the report beginning on page 66, and
1. Endorses Section 8.1 and table 8.5 of the report and the program of action outlined on page 73 of the report be referred to the SWMP implementation manager to be used as the basis of a project plan.
2. Seek advice WALGA concerning the legal position with Waste Management Plans for Developments and if that advice is favourable then each Council is to implement a program as outlined on pages 35 and 36 of the report.
3. Authorises the consultant to present the report to Government on Council's behalf by the due deadline.

John Hunter

CEO

Mr Bruce Bowman
Bruce Bowman and Associates Pty Ltd
PO Box 2059
ROSSMOYNE WA 6148

Dear Sir,

ADOPTION OF STRATEGIC WASTE MANAGEMENT PLAN - WAGIN GROUP

I wish to advise that the above mentioned plan was referred to the Council of the Town of Narrogin at its Ordinary meeting on 24 March 2009 with the following resolution passed -

That Council adopt the final draft of the Strategic Waste Management Plan and endorses the submission of the Plan to the Department of Environment and Conservation on behalf of the Wagin Group.

Please feel free to contact me should you wish to discuss this matter.

Yours sincerely,

WARREN BOW
DIRECTOR TECHNICAL & ENVIRONMENTAL SERVICES

27 March 2009



Shire of Cuballing

OFFICE HOURS: Monday to Friday 8.30am to 5.00pm

HEALTH 4a

SHIRE OF WAGIN

25 SEP 2008

RECEIVED

John Hunter
Chief Executive Officer
Shire of Wagin
PO Box 200
WAGIN WA 6315

Dear John

STRATEGIC WASTE MANAGEMENT PLAN – WAGIN GROUP

With reference to the above, the Shire of Cuballing at its Ordinary Council Meeting held on Thursday 18 September 2008, resolved to endorse draft Strategic Waste Management Plan and also the actions and resolution of the Wagin Group at the meeting held in Wagin on 4 September 2008.

Yours sincerely

Peter Naylor
CHIEF EXECUTIVE OFFICER

23 September 2008

Bruce Bowman

From: Greg Powell [ceo@wandering.wa.gov.au]
Sent: Thursday, 25 September 2008 10:26 AM
To: 'John Hunter'
Subject: RE: Draft 3 of the report

Morning John,

I got Council to tick off on the basis of the earlier draft at last week's Council meeting. After having a look at the latest draft it does not appear that many changes were made as far as we are concerned.

What do you need from me?

Cheers

Greg

From: John Hunter [mailto:ceo@wagin.wa.gov.au]
Sent: Wednesday, 24 September 2008 4:38 PM
To: aa; Alan Leeson; Garry Bird; Geoff McKeown; 'Henry Van Der Ende'; Jim Epiro; Jim Fraser; Nicole Wasmann; Peter Naylor; Steve Park; Stuart Holey; Warren Bow
Cc: 'Bruce Bowman'
Subject: Draft 3 of the report

People,

The attached is the final draft of the Regional Waste Strategy Document which needs to be OK'd by you and that OK transferred back to me. Can you get this done asap please?
 Once all of the OKs are in I can tell Bruce to submit it to the DEC, we might even make the deadline.

The next steps in the process are:

1. Bruce Bowman to prepare an invoice based on the original submission but reduced in value to accommodate changes to the Community consultation process.
2. CEO's of Wagin Group of Councils take the Draft 3 to respective Council meetings with the intention to adopt draft 3 of SWMP and approve for release as community consultation.
3. Community consultation to run for 30 days and Councils compile comments received.
4. Further action will be dependent of comments received but the intention is for the Wagin Group to adopt the SWMP and we send a Wagin Group meeting minute to DEC.

John Hunter
Chief Executive Officer



Shire of Wagin

2 Arthur Road (PO Box 200) Wagin WA 6315

Ph (08) 9861 1177, Fax (08) 9861 1204, Mobile 0429 611 493

Email: ceo@wagin.wa.gov.au Website: www.wagin.wa.gov.au

Bruce Bowman

From: Jim Fraser [jimfraser@lakegrace.wa.gov.au]
Sent: Thursday, 2 April 2009 4:10 PM
To: Bruce Bowman
Subject: The Plan
Attachments: _AVG certification_.txt

Bruce,

Council did adopt the Plan at its meeting on 25th March subject to the minor adjustments. My apologies for not clearly conveying that info to you.

Regards,

Jim Fraser
CHIEF EXECUTIVE OFFICER
Shire of Lake Grace
PO Box 50 WA 6353
Phone 9890 2500
Fax 9890 2599
jim@lakegrace.wa.gov.au

Disclaimer by the Shire of Lake Grace

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Bruce Bowman

From: Stuart Hoblely [ceo@pingelly.wa.gov.au]
Sent: Thursday, 25 September 2008 4:51 PM
To: John Hunter
Subject: Waste Plan

John

Council has adopted the Strategic Waste Management Plan at its September 2008 Council Meeting, subject to some minor changes being made in regards to the recommendations on Pingelly.

Regards

Stuart Hoblely
Chief Executive Officer

Shire of Pingelly
17 Queen Street
PINGELLY WA 6308
Phone: (08) 98871066
Fax: (08) 9887 1453
Email: ceo@pingelly.wa.gov.au

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You should scan this email and any attachments for viruses. The Shire of Pingelly accepts no liability for any direct or indirect damage or loss resulting from the use of any attachments to this email."

Bruce Bowman

From: Jim Epiro [jimepiro@westnet.com.au]
Sent: Thursday, 25 September 2008 12:15 PM
To: 'John Hunter'
Subject: RE: Draft 3 of the report

John,
 Council endorsed the Draft Report at the meeting held on 17 September 2008.
 Will await further advice prior to advertising Report for Public comment.
 Regards,
 Jim Epiro
 CEO
 Shire of Williams
 WILLIAMS

From: John Hunter [mailto:ceo@wagin.wa.gov.au]
Sent: Wednesday, 24 September 2008 4:38 PM
To: aa; Alan Leeson; Garry Bird; Geoff McKeown; 'Henry Van Der Ende'; Jim Epiro; Jim Fraser; Nicole Wasmann; Peter Naylor; Steve Park; Stuart Holey; Warren Bow
Cc: 'Bruce Bowman'
Subject: Draft 3 of the report

People,
 The attached is the final draft of the Regional Waste Strategy Document which needs to be OK'd by you and that OK transferred back to me. Can you get this done asap please?
 Once all of the OKs are in I can tell Bruce to submit it to the DEC, we might even make the deadline.

The next steps in the process are:

1. Bruce Bowman to prepare an invoice based on the original submission but reduced in value to accommodate changes to the Community consultation process.
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3. Community consultation to run for 30 days and Councils compile comments received.
4. Further action will be dependent of comments received but the intention is for the Wagin Group to adopt the SWMP and we send a Wagin Group meeting minute to DEC.

John Hunter
Chief Executive Officer



Shire of Wagin
 2 Arthur Road (PO Box 200) Wagin WA 6315
 Ph (08) 9861 1177, Fax (08) 9861 1204, Mobile 0429 611 493
 Email: ceo@wagin.wa.gov.au Website: www.wagin.wa.gov.au

The surest way to be left behind is to stand still..

Bruce Bowman

From: John Hunter [ceo@wagin.wa.gov.au]
Sent: Wednesday, 1 October 2008 3:20 PM
To: 'Bruce Bowman'
Subject: FW: Wickepin Regional Waste
Attachments: _AVG certification_.txt

Bit late but you might as well have it.

John Hunter
Chief Executive Officer



Shire of Wagin

2 Arthur Road (PO Box 200) Wagin WA 6315
Ph (08) 9861 1177, Fax (08) 9861 1204, Mobile 0429 611 493
Email: ceo@wagin.wa.gov.au Website: www.wagin.wa.gov.au

The surest way to be left behind is to stand still..

From: Alan Leeson [mailto:ceo@wickepin.wa.gov.au]
Sent: Tuesday, 30 September 2008 3:36 PM
To: John Hunter
Subject: RE:Wickepin Regional Waste

Resolution No 170908.10

Moved Cr Sands / Seconded Cr Easton

That the actions and resolution by the Wagin Group at the meeting held in Wagin on Thursday 4 September 2008 be endorsed by the Shire of Wickepin.

Carried 9/0



Inquiries: Geoff McKeown

31 December, 2008

Mr Bruce Bowman
Bowman & Associates Pty Ltd
PO Box 2059
ROSSMOYNE WA 6148

Dear Bruce,

Strategic Waste Management Plan

Following the advertising of the Draft Strategic Waste Management Plan for the Wagin Group of Councils, the Shire of Narrogin received a number of submissions.

Specifically they related to the recommendation in the report concerning the promotion of the alternative landfill site on the corner of Contine Road and Narrakine South Road, Narrogin. The submissions raised a number of concerns about the use of this site and requested that reference to it be removed from the recommendations relating to the Shire of Narrogin. As a consequence the Council adopted the following recommendation at its last meeting:

“The Strategic Waste Management Plan prepared for the Wagin Group of Councils and the recommendations contained therein relating to the Shire of Narrogin be adopted with a modification that the recommendation relating specifically to the promotion of the Highbury alternate landfill site be removed and replaced with the following wording:

5. Investigate and promote potential site(s) for a regional landfill should the Town of Narrogin landfill be considered for closure.”

In addition it appears that we have not forwarded to you the Resident Questionnaires that have been received by this office. If there is still an opportunity to include them in the document it would be appreciated. My apologies for this oversight and I have attached the questionnaires received.

Yours faithfully,

A handwritten signature in dark ink, appearing to read 'Geoff McKeown', is written over a light-colored background.

Geoff McKeown
Chief Executive Officer

Bruce Bowman

From: Nicole Wasmann [NWasmann@westarthur.wa.gov.au]
Sent: Wednesday, 1 April 2009 2:18 PM
To: Bruce Bowman
Subject: RE: Wagin Group SWMP Final V8
Attachments: _AVG certification_.txt

Extract from September minutes

ITEM 9.1.2 – STRATEGIC WASTE MANAGEMENT PLAN

COUNCIL DECISION (OFFICER’S RECOMMENDATION – ITEM 9.1.2
--

Moved: Cr Ray Harrington Seconded: Cr Bill Johnston

That

1. The recommendations contained in section 5.2.5 of the Draft Strategic Waste Management Plan be used as the basis for the development of a Waste Management Plan for the Shire of West Arthur;
2. The recommendations contained in Section 6.4 of the report beginning on page 66 be endorsed;
3. Section 8.1 and table 8.5 of the report and the program of action outlined on page 73 of the report be endorsed and referred to the SWMP implementation manager as the bases of a project plan; and
4. Advice be sought from WALGA concerning the legal position concerning Waste Management Plans for Developments and if that advice is favourable then each Council is to implement such a program.

CARRIED 7/0

ATTACHMENT

Strategic Waste Management Group Meeting Draft Minutes

Nicole Wasmann
 Shire of West Arthur
 email: nwasmann@westarthur.wa.gov.au
 phone 97362215

From: Bruce Bowman [mailto:bruce@bowmanassociates.com.au]
Sent: Tuesday, 31 March 2009 3:02 PM
To: 'Bruce Bowman'; 'Campbell, Catherine'
Cc: 'Davis, John'; 'Alan Leeson'; 'Geoff McKeown'; 'Greg Powell'; 'Henry Van Der Ende'; 'Jim Epiro'; 'Jim Fraser'; 'Leanne Parola'; 'Len Calneggia'; Nicole Wasmann; 'Peter Naylor'; 'Steve Park'; 'Stuart Hobley'; 'Warren Bow'
Subject: Wagin Group SWMP Final V8

Catherine and Wagin Councils,

My apologies for jamming up your email inboxes with a second version of this report. Version 8 attached contains two subtle changes relating to the Shire of Lake Grace.

Regards,
Bruce Bowman

Bruce Bowman

From: Len Calneggia [len.calneggia@woodanilling.wa.gov.au]
Sent: Tuesday, 10 March 2009 8:34 AM
To: 'Bruce Bowman'
Subject: endorsement of plan
Attachments: _AVG certification_.txt

Hello Bruce,
I advise that the Shire of Woodanilling endorsed the SWMP at its meeting of 16 September 2008 (Item 11.1)
Regards

Len Calneggia
Deputy Chief Executive Officer
Shire of Woodanilling
Phone 98231506 (work)
98231242 (home)

Bruce Bowman

From: Alex [ceoao@dumbleyung.wa.gov.au]
Sent: Thursday, 2 April 2009 10:42 AM
To: bruce@bowmanassociates.com.au
Cc: len.calneggia@woodanilling.wa.gov.au
Subject: Waste Management
Attachments: _AVG certification_.txt

Hi Bruce & Len,

Council adopted the minutes of the regional waste group at its March meeting - the minute from the adoption is attached below:

10.5.13 Wagin Regional Waste Group – Minutes

FILE: HE WAS

Background

The Wagin Regional Waste Group has been meeting for several years and was set up to deal with waste management on a regional basis as required by the Department of Conservation. The group has employed a consultant (Mr Bruce Bowman) to undertake the process of developing a strategic waste management report. Council is requested to formally adopt the report.

Stage two of the project is to employ a project officer (funded by grants from DEC) to implement the recommendations of the report.

Financial Implications

Nil

Policy Implications

Nil

Statutory Implications

Nil

Officer Recommendation and Council Decision**Motion 018**

Moved Cr Bracknell

Seconded Cr Ball

That the minutes of the Regional Waste Group be received and that Council;

1. Adopt the strategic waste management plan;
2. Endorse the appointment of a project officer funded by grants from the Department of Environment and Conservation for the purposes of progressing the recommendations of the report.

CARRIED 8/0

Voting Requirements

Simple Majority

Mrs Alex Adams

Executive Secretary

Shire of Dumbleyung

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