



## BYRON BAY ECO-FRIENDLY YOUTH PROJECT Waste Audit Results

*North East Waste Forum*

### 1. BACKGROUND

Byron Youth Services, the Youth Activities Centre and the UNCLE program are participating in the North Coast Eco-friendly Youth Project. The project is being coordinated by the North East Waste Forum with the support of project partners. The aim of the project is to implement sustainable practices within the Centre through an Environmental Management Plan, and through the integration of environmental issues into the activities and programs run through the centre. The focus of the project is on water, waste and energy reduction and conservation. As part of the project, waste, water and energy audits have been conducted to provide information and data for recommendations on how to reduce and conserve resources.

The following report has been prepared as part of the project to report on the results of the **waste audit** conducted at the Centre and related **waste reduction options**. The report outlines the methodology used, results of the audit with recommendations on how the Centre can reduce the amount of waste currently being produced.

The waste audit was conducted on the 9<sup>th</sup> of September at the Youth Centre. The aim of the audit was to provide data and information which would assist in the reduction and possible diversion of waste at the Byron Youth Centre. The waste auditors were Samala Hogg and Nicky Walker of NEWF, assisted by Simon Du Bois of BYS and Ellie Renaud of YAC with the support of Jeni Cavanagh of the UNCLE program.

### 2. EXISTING WASTE REDUCTION MEASURES

Each organisation participated in a pre-audit survey to determine what waste reduction measures were already occurring. The survey results are in Appendices 1, 2 and 3. In summary,

- The Byron Youth Centre currently has a 0.75m<sup>2</sup> trade waste bin for paper recycling, that is emptied on a needs basis (approximately once per month).
- One staff member takes some of the recyclable containers to a drop-off centre, but no commingled recycling service is currently provided.
- There is a compost bin in the communal kitchen area.
- An open compost pile is currently in use, however little remains in the heap due to scrub turkey scavenging.
- The three organisations have their own designated paper recycling bins in each office space.
- BYS uses no chemicals in their cleaning products.
- Office equipment is generally donated and reused where possible.
- Toner cartridges are returned to the manufacturers for recycling.

- The YAC uses Fuji Xerox Green Wrap Recycled Copy Paper – 60% recycled paper, 40% from sustainable plantations.
- Some staff reported they use paper printed on one-side where possible and make note-pads from this.

### **3. CONSIDERATIONS**

1. The audit did not include waste bins from outside areas of the building, where waste from events and public use may be placed, nor did it include what is composted.
2. The quantities of waste at the Youth Centre can vary considerably, depending on events, courses being run and during peak times such as school holidays. Therefore these results are intended to provide a simple snapshot of the waste stream.

### **4. THE WASTE AUDIT:**

#### **4a) Methodology**

- Pre-audit background research with Centre staff was conducted by the Project Coordinator, through in-depth staff interviews/surveys, highlighting existing waste reduction measures (see Appendices 1, 2 and 3).
- An inspection of the premises' waste system took place on the day of the audit.
- All waste at the centre was collected apart from that already in the trade waste bins/compost heap.
- Waste was collected by staff over a 5 day period, from Monday - Friday
- Throughout the audit process, items were categorised, weighed and recorded on data sheets (see Appendix 2), the results were then added up and are presented in waste categories as weight in kilograms (kg) and converted to percentages (%).

#### **4b) Conducting the waste audit**

##### **Prior to audit**

- Staff were notified (or asked to notify their cleaners) to not empty their bins into the trade waste bin or recycling bin for one week prior to the waste audit.
- Nominated auditors were provided with the relevant Occupational Health and Safety Regulations and Requirements (see Appendix 3), and also informed the Centre staff involved.
- The correct safety clothing and equipment was organised (see equipment list below).
- The audit data recording sheets were adapted and simplified to suit the needs of the Centre. Audit staff familiarised themselves with these recording sheets.

##### **Equipment used for waste audit**

- Sorting table
- Builders plastic and tape, to cover table
- Thick gloves
- Protective clothing, eg: overalls (these were not required for this audit)
- Tongs, eg: BBQ tongs (these were not required for this audit)
- Containers; 3-5 large and 5-7 small, (paper crates and ice cream containers)
- Scales (we used 1:1000kg), however digital bathroom scales would also have been sufficient

- Audit data recording sheets
- Clipboard, pens, calculator

**Procedure used for the waste audit**

- Staff involved were provided with a brief overview about the objectives of the audit, the methodology used and OH&S procedures. These staff participated throughout the audit.
- A sorting table was prepared, covered with builders plastic and secured in place with tape.
- The weighing station was set-up, with scales placed in a clear area, away from the sorting table.
- All containers were weighed individually and the weight recorded on the sides of each container for clear visibility.
- All bins were collected. Different types of bins (eg paper bin or waste bin) and bins from different areas (eg BYS, YAC, UNCLE and Toilets) kept separate throughout the sorting, weighing and recording procedure, so as to record individual waste outcomes for each organisation as well as a whole of centre approach.
- Assisting staff were guided by the waste auditors to wear the appropriate protective clothing i.e. Gloves. In this instance no overalls or tongs were required.
- The contents of the nominated bin were emptied onto the sorting table.
- Each article of waste was then separated into the appropriate waste category listed below and placed in a nominated container (one for each category).
- Once the waste from a nominated area had been sorted, the containers were then moved to the weighing areas.
- Each container of waste was then weighed, (subtracting the weight of the container from the total weight) and the weight recorded in the appropriate category onto the data sheet.
- Once all waste was weighed and recorded, staff involved provided some ideas for waste reduction options.
- Following the audit the results have been analysed and collated into the tables and graphs.

**The waste was sorted into the various categories listed below:**

**Paper (including)**

- Cardboard
- paper - one side used
- paper - both sides used
- Paper (other)
- Liquid paper containers (eg milk cartons, waxed)

**Organic**

- Food/kitchen waste
- Compostable packaging
- Vegetation/textile/other organic
- Other organic waste (eg. vegetation)

**Recyclable glass**

**Plastic**

- Recyclable plastic
- Non-recyclable plastic
- plastic bags/film

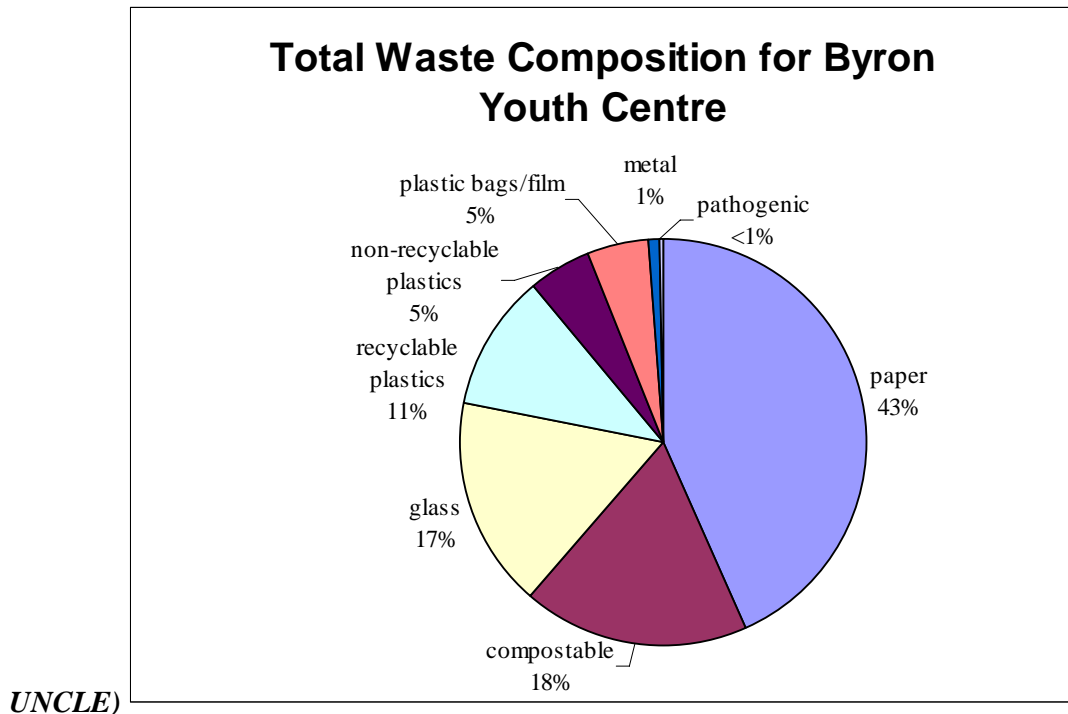
**Metal (including steel and aluminium)**  
**Pathogenic waste**

## 5. RESULTS OVERVIEW – WHOLE OF CENTRE

The following pie charts and graphs provide an overview of the composition of the waste and recycling bins, for the whole centre, inclusive of Byron Youth Services, Youth Activities Centre and UNCLE. Overall, current diversion which is achieved principally through recycling of paper is at 79%. The Centre has the potential to divert up to 98% of its waste through implementation of co-mingled recycling (i.e. glass, steel, aluminium, plastics), composting and diverting recyclables and compostables from the waste bin.

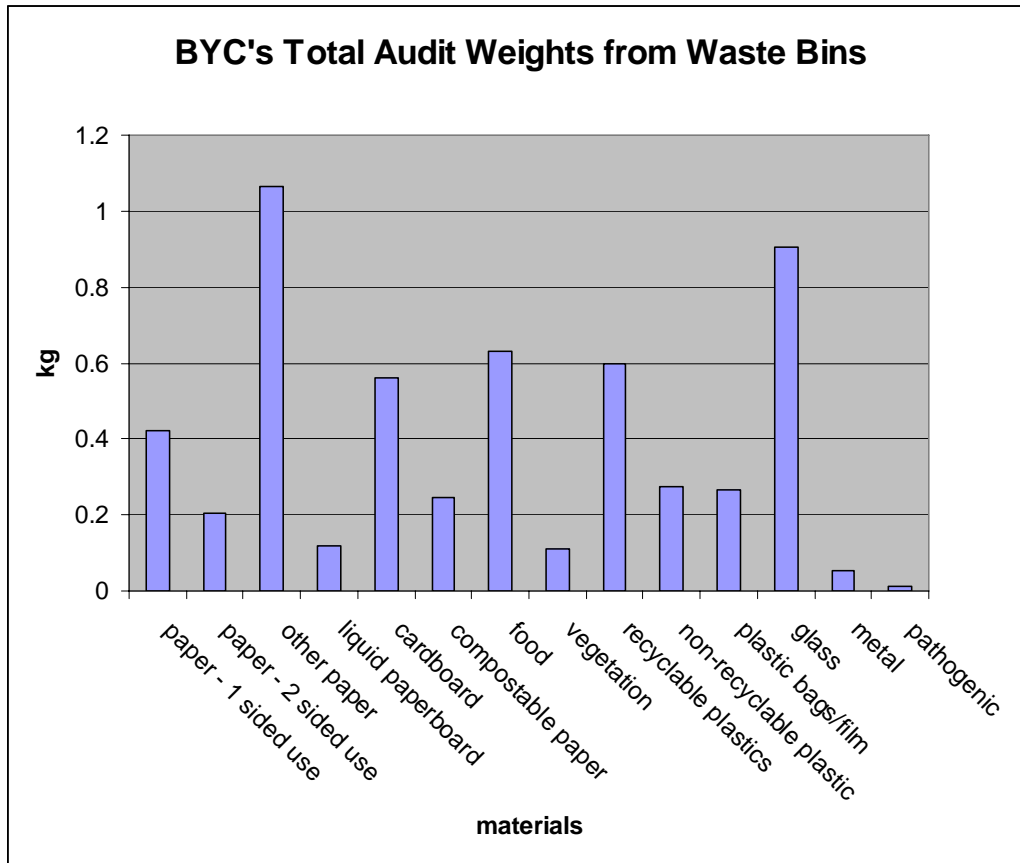
As shown below in Graph's 1 and 2, of the waste currently being **disposed** of in the Centre as a whole, paper was the largest component representing 43% of the overall waste bin weight, followed by 18% compostables (mostly paper tissue) and 17% glass. Only 10% of what is in the waste bin is non-recoverable.

**Graph 1: Total Waste Composition for Byron Youth Centre (BYS, YAC,**



**UNCLE)**

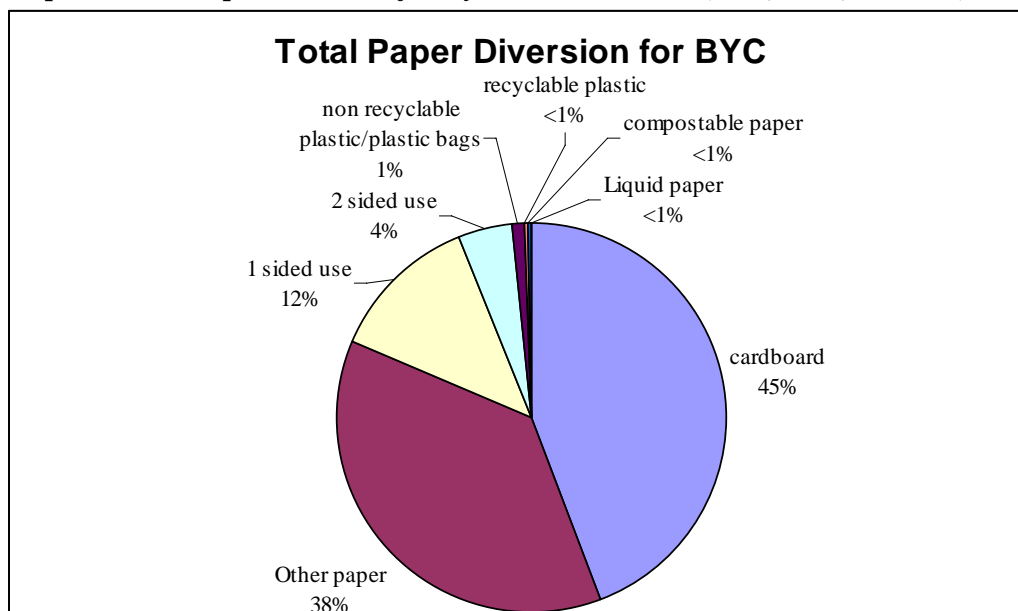
**Graph 2: Total Audit Weights (kgs) from Waste**



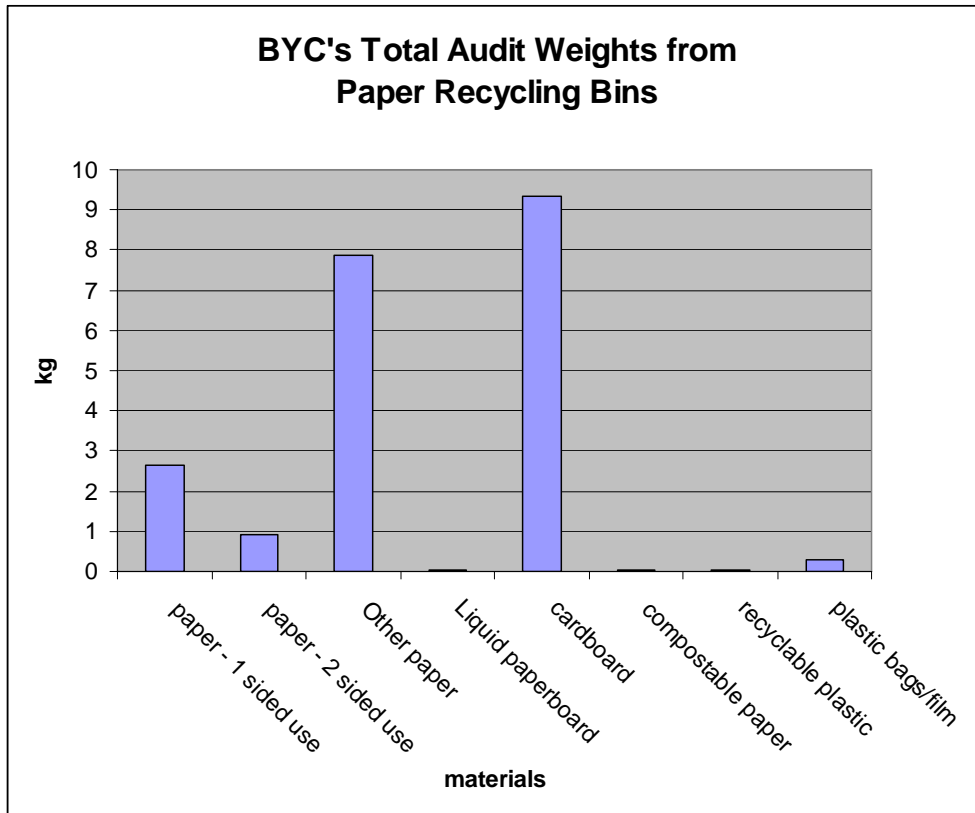
**Bins**

The following graphs, 3 and 4, show the contents of the recycling bin and the total paper diversion in both percentages and weight (kgs) for Byron Youth Centre. Contamination of less than 2% was found in the recycling bin. Twelve percent of the paper was used on one side only.

**Graph 3: Total Paper Diversion for Byron Youth Centre (BYS, YAC, UNCLE)**

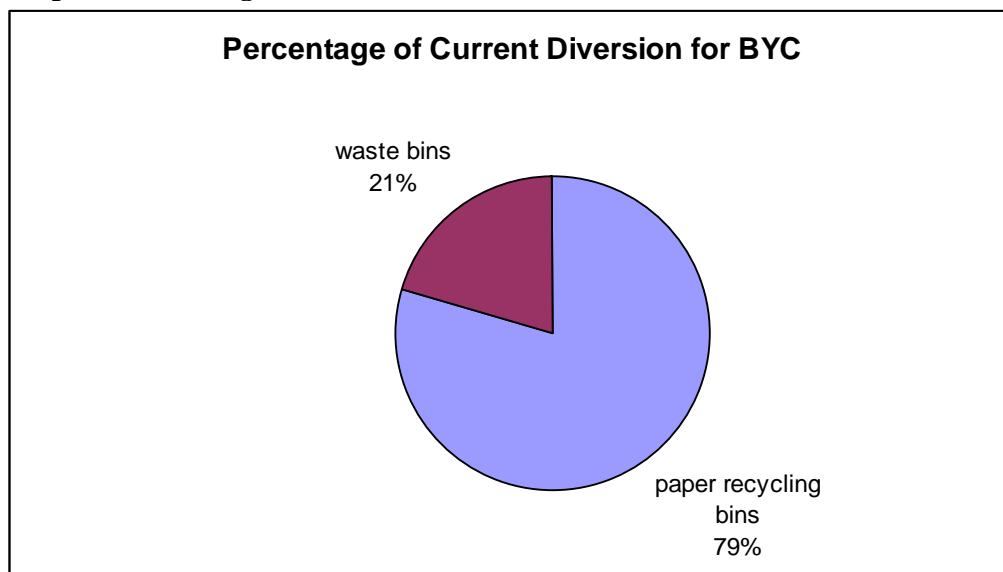


**Graph 4: BYC's Total Audit Weights (kgs) Paper Recycling Bins**

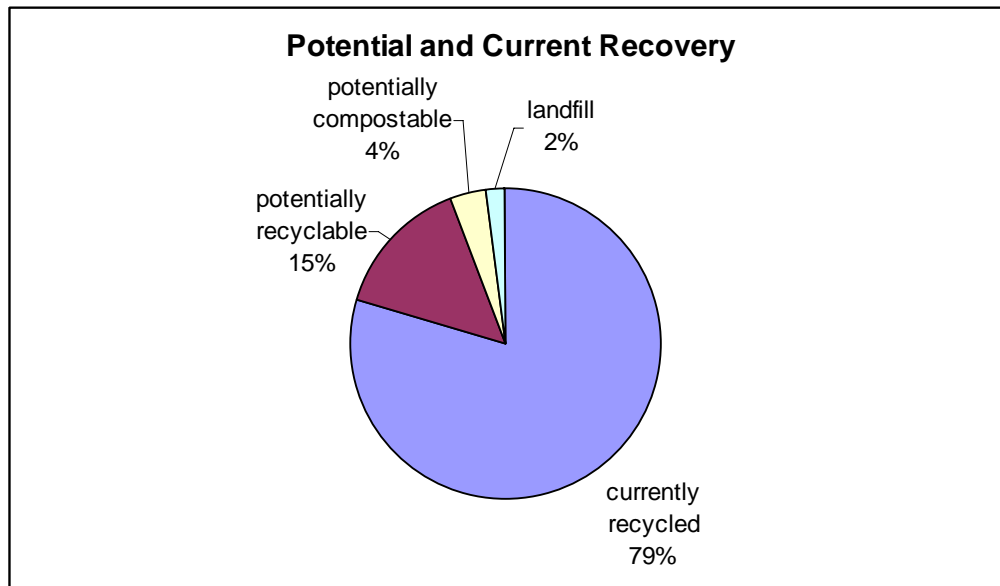


The graph below, 5, shows that 79% of total waste is currently diverted through paper recycling, with waste to landfill at 21%.

**Graph 5: Percentage of Current Diversion for BYC**



**Graph 6: Potential and current recovery for BYC**



**Note: current composting practices are not included in this graph.**

Graph 6 provides an overview of the percentage of potential and current recovery rates (not including what is being currently composted at the centre). Potentially, Byron Youth Centre could reach up to a 98% diversion rate of waste going into the waste bin and to landfill. The Centre could achieve this by increasing their recycling to 94% diversion through:

- ∞ expanding infrastructure for other recyclables to be collected, including aluminium, glass, steel and recyclable plastics;
- ∞ further promote paper recycling and provide appropriate infrastructure (bins under desk etc) to ensure paper is recycled;
- ∞ ensure there is education/communication about recyclable papers and other materials

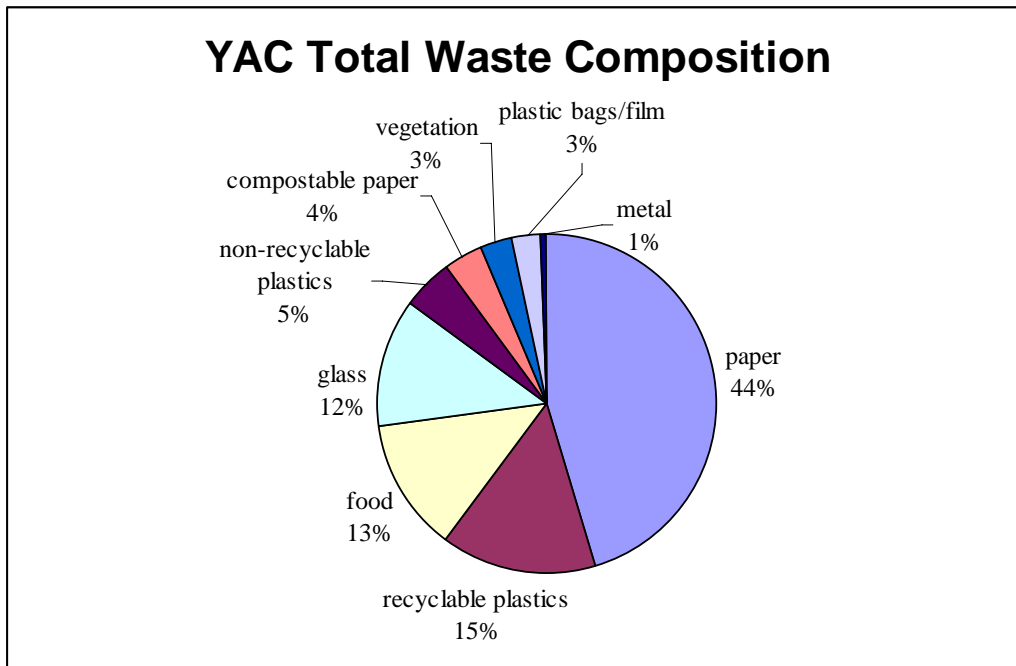
A further 4% diversion could be achieved by composting food scraps, vegetation and compostable papers (tissue paper.). Byron Youth Centre could also reduce their paper consumption by promoting the use of both sides of the paper, before going into the recycling bin, thereby extending the life of the paper.

## **6. ORGANISATION SPECIFIC RESULTS:**

### **a) Youth Activities Centre**

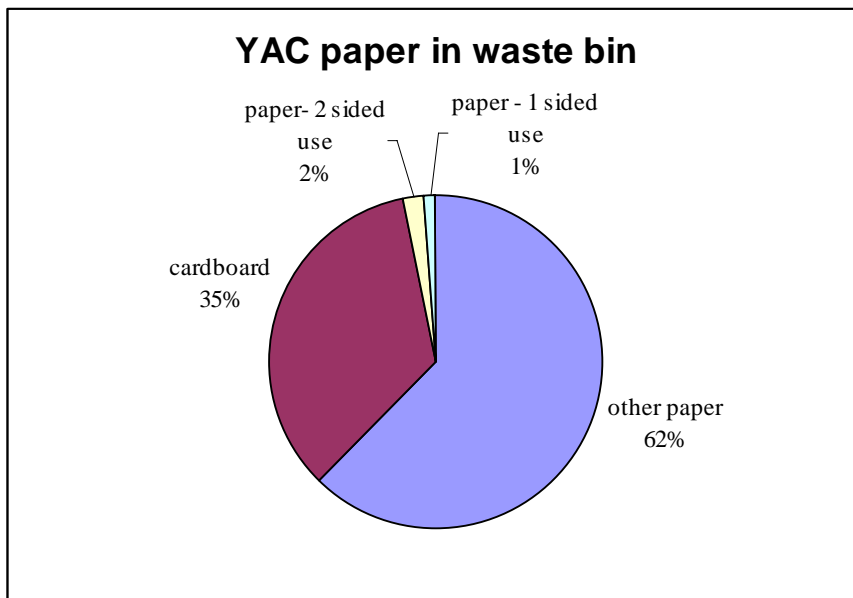
The following graph (Graph 7) depicts the total waste composition for the Youth Activities Centre alone. Paper is the highest component at 44%, recyclable plastics at 15% and food and glass at 13% and 12% respectively.

**Graph 7: YAC Total Waste Composition**



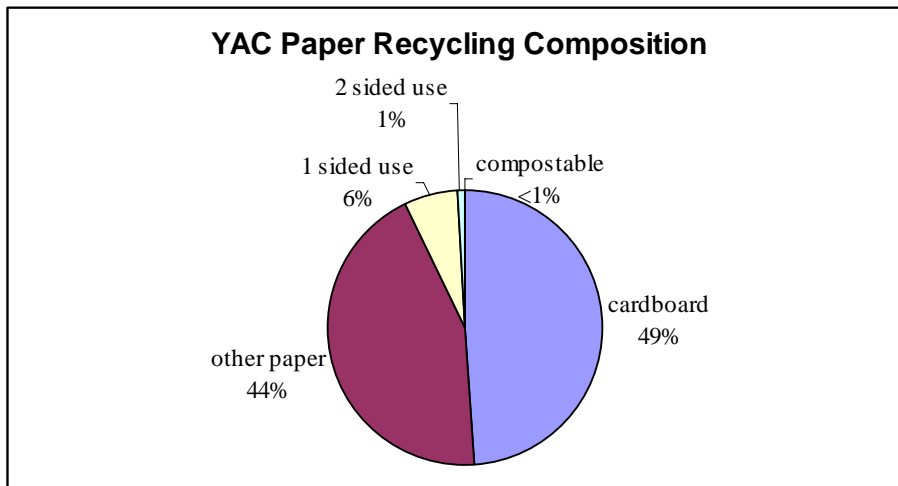
Graph 8 below, shows that of the paper in the **waste bin**, the majority is 'other' paper- 62% and cardboard- 35%. Only 3% consisted of office copy paper. These results indicate that more information may be required about what paper/cardboard can and can't be recycled to ensure all 'other' paper and cardboard is recycled in the future.

**Graph 8: YAC paper in waste bin**



Graph 9, below, shows the composition of recycling for the paper recycling bin, the majority of which is cardboard – 49% and other paper at 44%. 6% of the paper was used on one-side.

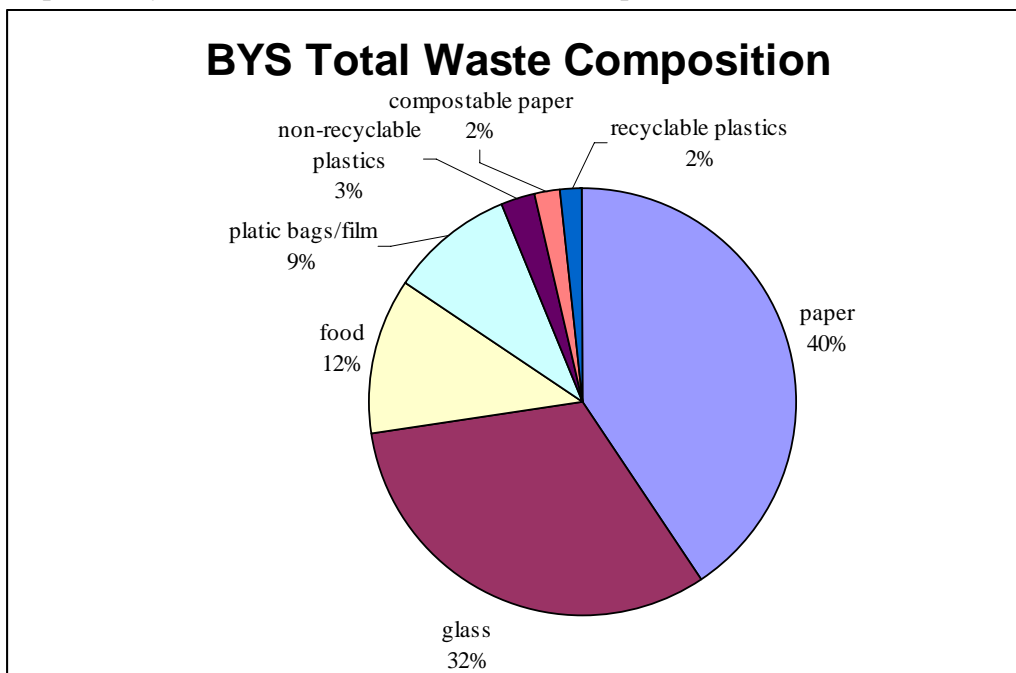
**Graph 9: YAC Paper Recycling Composition**



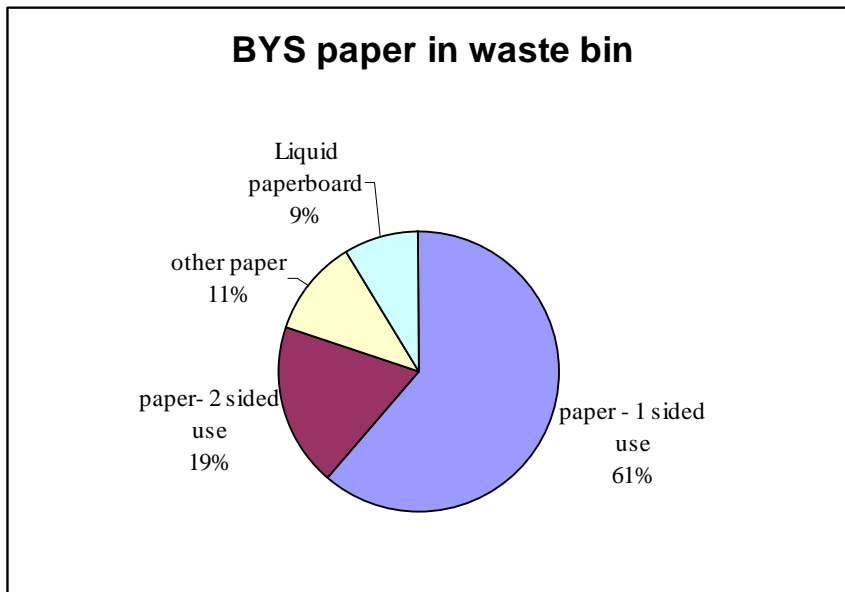
**b) Byron Youth Services**

The results below are for the audit of the Byron Youth Services waste and recycling bins alone. Graph10, below, indicates that the largest component is paper at 40% of the waste bin, with glass at 32% and food at 12%. Through recycling more paper, provision of other recycling bins for recyclable materials, including steel, aluminium and glass and composting of food scraps and compostable paper (eg tissue paper in bathrooms), BYS could potentially recover 88% of current waste in the waste bin. Additionally, 61% of the paper in the **waste bin** (Graph 11), and 24% of paper in the recycling bin (Graph 12) was used on one side only. Byron Youth Services could also promote double-sided use of paper. No contamination of paper for the paper recycling bin was evident.

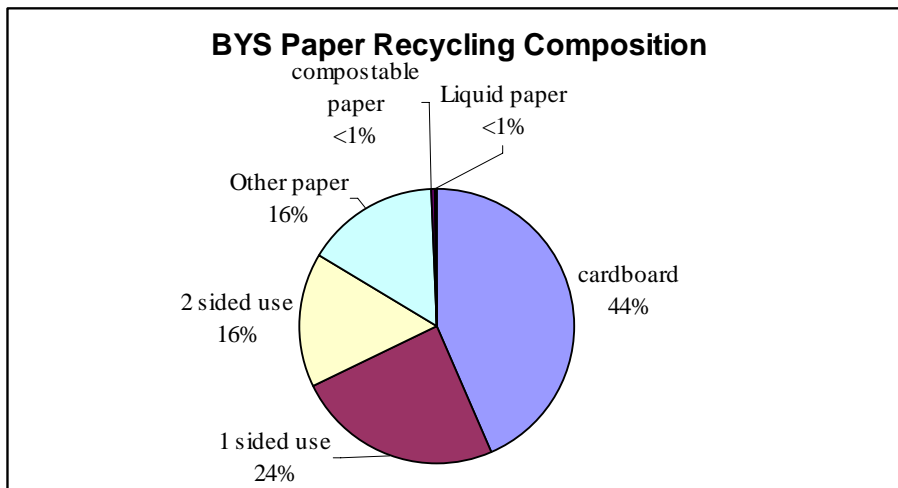
**Graph 10: Byron Youth Services Total Waste Composition**



**Graph 11: *BYS paper in waste bin***



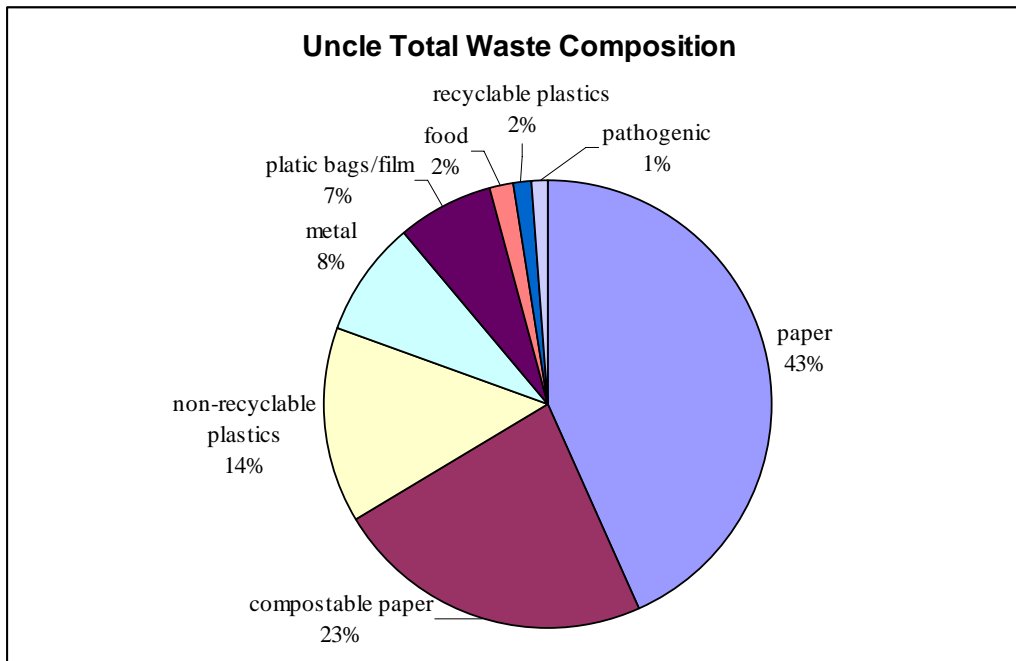
**Graph 12: *BYS Paper Recycling Composition***



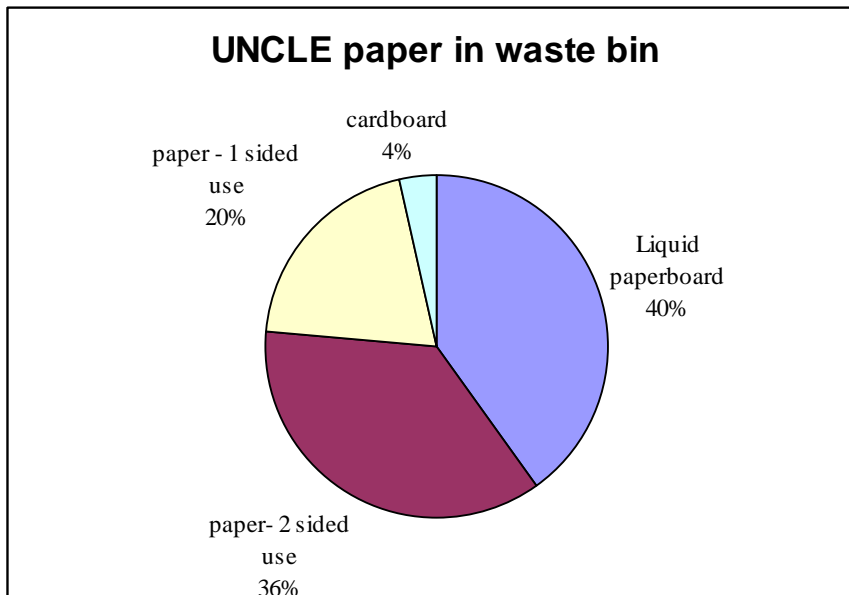
**c) UNCLE**

The results below are for the UNCLE office only. As shown in Graph 13 below, of the total waste, 43% was paper, followed by 23% compostable paper, and 14% non-recyclable plastics. Graph 14 indicates that of the paper in the waste bin, 40% was liquid paperboard, 36% was double-sided paper, and 20% single-sided paper. These results indicate that education/communication in what is able to be recycled in the paper recycling bin (eg. LiquidPaperBoard), and more recycling infrastructure underneath desks, next to printers etc, may assist in diverting paper from the waste bins.

**Graph 13: Total Waste Composition - UNCLE**

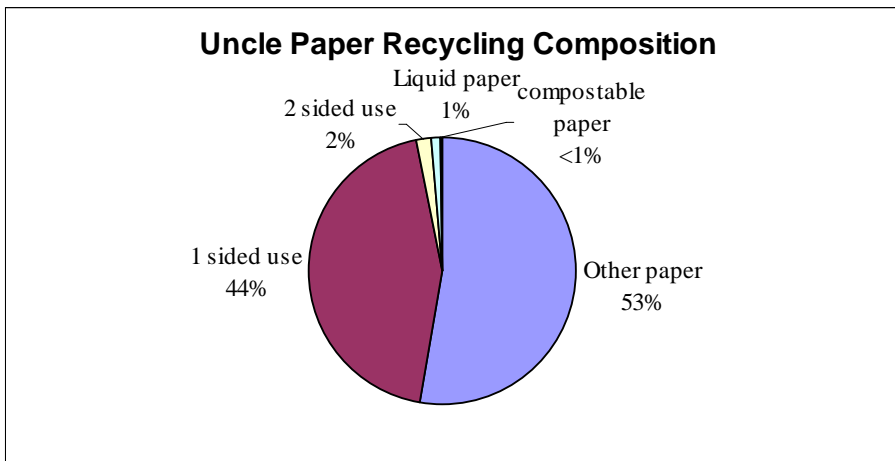


**Graph 14: UNCLE paper in waste bin**



The graph below (no. 15) indicates that 44% of the paper in the Paper Recycling bins, 44% was used on one side only. There is the potential to promote the use of both sides of paper, and thus extend the life of the paper before recycling.

**Graph 15: UNCLE Paper Recycling Composition**



## **7. RECOMMENDATIONS TO REDUCE WASTE**

### **a) Whole of Centre Approach**

- Increasing the current recycling practices will have the greatest impact on increasing the youth centre's waste diversion (or resource recovery) therefore decreasing waste disposal.
- The paper/cardboard recycling trade waste bin has graffiti on it and therefore staff and youth alike may not be aware what can specifically be recycled. Contamination could be greatly reduced with adequate signage so as to eliminate confusion. For example a stencil stating 'Cardboard and Paper Only' placed on the lid.
- Contact Byron Shire Council to discuss accessing a commingled recyclables collection service.
- Place a paper recycling bin (eg. Visy paper bin) under staff desk and work area, photocopying machines and printers.
- Label any new bins/recycling infrastructure around the centre with clear information eg. Colour coding and pictures can be useful to clarify clearly what materials are appropriate to place in that specific bin.
- Investigate more effective options for food composting, for example using an enclosed compost bin to reduce animal scavenging or introduce a worm farm.
- Increase double sided paper use.
- Minimise paperwork – use computer for on-line reading, emails don't need to be printed etc.
- Communication and education of waste reduction initiatives. Staff and youth should be involved and informed about all changes and improvements to the waste management system. For example, staff training, green-office open day, emails, newsletters, and incorporated into regular staff induction.
- Investigate the development of a green purchasing policy (incorporating waste, water and energy reduction).
- Education initiatives within youth programs currently run in the centres – eg. Waste-less events, waste-free catering, reusable art course.
- Donate or sell equipment no longer required, or contact Council for recycling/reuse opportunities.

- Reusable crockery, cutlery, bags used for catering courses to minimise use of disposable items eg. Plastic forks, bags, plates

**b) Recommendations for BYS/UNCLE**

- Purchase of copy-paper with recycled content (eg. Fuji Xerox Green Wrap – 60% recycled content @ \$6.20/ream; Recycled Supreme 100% recycled content @ \$6.30/ream)

**8. Summary**

Byron Youth Centre and the organisations within it currently achieve a 79% diversion of waste to landfill through paper recycling. Increased diversion rates of up to 98% can be achieved through the introduction of the recommendations above and through ongoing education and communication to staff and young people using the centre. A Waste Reduction Action Plan will assist in planning and implementing these recommendations. The NEWF will assist the Byron Youth Centre in developing the Action Plan, and identifying how these recommendations can be implemented.

## Appendix 1: Byron Youth Services Pre-audit survey – Waste results

What do you do now? WASTE Byron Youth Services	Yes	No	What stops you	Would you consider implementation of this?
Recycle paper, cardboard	Yes			
Recycle glass, aluminium etc		No	No available service, no bins or collection system available	If no cost or minimum cost.
Use paper with recycled content		No	Recycled paper perceived as not being good quality.	Yes, dependant on cost. Source all stationary from one supplier.
Use both sides of office paper where possible		Yes and no	Individual choice as no overall policy – usually paper out of printer one sided, and photocopying one-sided. In the Links to learning program, we do double-sided printing and photocopying	Yes, signage is needed to do this. There has been feedback from students involved in mentoring program that double-sided photocopying/printing needed. Systems need to be developed and put in place.
Make message pads from used one-sided paper	Yes		Individual choice – scrap is used by some individuals (links to learning program do).	
Use email & electronic files to save on printing	Yes			Sufficient level
Use overhead projectors and whiteboards where possible to reduce the need for hand-outs		No	No Overhead projector. Whiteboards are used and data projector. Handouts are usually not an issue	YES. Links program – try and initiate less handouts in the courses. At the end of a course, the students walk away without the folder. Explore options available.
Use a toner recharge service	Yes			
Compost food scraps	Yes			Improved compost (closed system)
Sell or give-away excess furniture and/or equipment	Y		No systems in place; ad-hoc – stored usually and eventually chucked out.	Yes, although BYS usually inherits equipment from others. Presently have ‘stuff’ ready to move – but things like old chairs, computers?, printers? – but may not be resellable as very old.
Purchase environmentally friendly goods and services, including cleaning products		No	Because usually we look at cost for larger items, cleaning	For some things as long as cost was OK.

		products are environmentally friendly (cleaners and coordinators initiative). Problematic because of usage changes for food stuff.	
Dispose of hazardous waste and chemicals in an environmentally friendly way (eg. Cleaners, paints etc)		No courses which use hazardous wastes – no art based courses N/A	Issue of space in relation to what can be runout of BYS.
Cleaning products		All non-toxic cleaning products are used.	

## Appendix 2: Youth Activities Centre Pre-audit Survey

What do you do now? WASTE – Youth Activities Centre	Yes	No	What stops you	Would you consider implementation of this?
Recycle paper, cardboard	Yes			
Recycle glass, aluminium etc	Yes – but only personally	No for others	No available service,	If services were available and Council agreed.
Use paper with recycled content	Yes			Council supply the paper – Fuji Xerox
Use both sides of office paper where possible	Try to where and when possible		Individually as no overall policy – usually out of printer one sided, and photocopying one- sided.	YES – procedures, systems and policies in place would assist – eg. Printer-set up and photocopying set-up. Flyers could be double-sided and reduced in size
Make message pads from used one-sided paper	YES		Individual level	Policies in place to assist with this being more often
Use email & electronic files to save on printing	Yes		Council files are not on-line, and therefore paper print-outs must occur for filing purposes.	
Use overhead projectors and whiteboards where possible to reduce the need for hand-outs	Yes			
Use a toner recharge service	Yes			Toners are sent back to the supplier when empty and new ones are needed.
Compost food scraps	Yes		Very few foodscraps from the activities at the YAC	
Sell or give-away excess furniture and/or equipment	Yes			
Purchase environmentally friendly goods and services, including cleaning products	Yes		No overall procedure/policy in place but occurs because of individual interest in environment	Environmentally friendly purchasing procedures and suppliers where possible – Council do most of the purchasing through their own suppliers.
Dispose of hazardous waste and chemicals in an environmentally friendly way (eg. Cleaners, paints etc)	Yes			Courses using paints, glues etc do not throw away - leftovers are kept in containers for the coordinator to dispose of responsibly
Printing of flyers using A5 size or postcard size			Printing done at Council -	

(reduced size – less paper) and double-sided

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### Appendix 3: UNCLE Pre-audit Survey - Waste

What do you do now? WASTE – UNCLE Program	Yes	No	What stops you	Would you consider implementation of this?
Recycle paper, cardboard	Yes			
Recycle glass, aluminium etc		No	No service available	If there was necessary infrastructure at no cost
Use paper with recycled content		No	Paper used is Office Choice, and Dolphin are the paper suppliers	Yes – would consider
Use both sides of office paper where possible	Yes			
Make message pads from used one-sided paper	Yes			
Use email & electronic files to save on printing	Yes		Do this as much as possible	
Use overhead projectors and whiteboards where possible to reduce the need for hand-outs	Yes but N/a			
Use a toner recharge service			Unsure – need to check	
Compost food scraps		No	Not many food scraps produced, not using the compost bin in the kitchen.	
Sell or give-away excess furniture and/or equipment	Yes			
Purchase environmentally friendly goods and services, including cleaning products		?	Unsure, not purchased intentionally. No cleaning products as yet	Cleaning products will be low or non-toxic. Second-hand equipment purchased. Looking at purchasing new computers
Dispose of hazardous waste and chemicals in an environmentally friendly way (eg. Cleaners, paints etc)		N/a		

#### Appendix 4: Recording data sheet used for auditing

MATERIAL TYPE	WEIGHT	TOTAL	COMMENTS/COUNTS
Cardboard			
Paper: one side used			
Paper: double sided			
Liquid paper cartons ( <i>not</i> foil)			
<b>TOTAL PAPER:</b>			
Food waste			
Compostable packaging			
Vegetation/textile/other organic			
<b>TOTAL ORGANIC:</b>			
Recyclable Glass			
Non-recyclable glass			
<b>xTOTAL GLASS:</b>			
Recyclable plastics (1, 2, 3)			
Non-recyclable plastics			
Non recyclable other (eg. foil lined cartons)			
Plastic bags/film			
<b>TOTAL PLASTIC:</b>			
Steel			
Aluminium			
<b>TOTAL METAL:</b>			
Paint			
Fluorescent tubes			
Batteries			
Household chemicals			
Pathogenic waste			
Dust/dirt/rock/inert			
Ink cartridges			
Other (specify)			
Other (specify)			
<b>TOTAL OTHER:</b>			
<b>GRAND TOTAL:</b>			