

Waste Education Facilities Evaluation: Waste Alert Program. Maroochy Shire Council Report



“My kids are now recycling Nazis”

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Waste Education Facilities Evaluation: Waste Alert Program Maroochy Shire Council

Evaluation Highlights

Waste Alert has delivered high quality education about waste over 2,300 school students and more than 200 adults during 2004.

Education is provided from a purpose built fixed facility situated near the Materials Recovery Facility in Maroochydore. This is a state of the art education teaching space primarily designed for use with primary aged students. Lessons are delivered by qualified teachers and six waste themes are covered in a range of lessons that are well integrated into the curriculum

Waste Alert had significant impact on the knowledge of the students who participated in the sessions with more than 70% learning more about recycling and more than 50% learning a lot more about how to reduce waste.

Waste Alert has had an impact on the behaviour of the young people who participated in the program. It has assisted participants to talk with their parents about waste issues. Teachers expressed positive views about the program and rebooking rates are high

Over 90% of those adults who participated in the Waste Alert program indicated that it had a real impact on their behavior and that they will be doing things differently in the future. Knowledge increases also occurred in the adults who participated

Waste Alert is aiming at extending its reach into the adult community, and given that the program has had significant impact on the adults that have been involved to date, much more could be made of Waste Alert. The program needs to work hard at accessing adults, but with a high media profile and a solid marketing strategy, many more adults can be educated.

The education centre is currently underutilized and the Waste Alert program would provide waste reduction benefits from extension into the neighbouring council areas, Noosa Shire and Caloundra Shire.

Waste Education Facilities Evaluation: Waste Alert Program Maroochy Shire Council

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Hayley Martin - Communications Officer Maroochy Shire Council
Gerard Kavney - Manager, Maroochy Waste Management

About the title: *"My kids are now recycling Nazis"* is a quote from a parent of some of the children who have participated in Waste Alert.

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Introduction

The delivery of education to reduce waste and to promote resource recovery is a priority activity for the Maroochy Council. The Waste Alert Program is the priority means of carrying education messages about waste reduction, recycling and reuse into the community. Waste alert has a schools and adult community focus and is based on the use of an Education Centre at the Materials Recovery Facility [MRF] and tours of the facility.

This report documents the activities of the Waste Alert Program since 1999 and evaluates activity against a number of outcomes, which are linked to the objectives of the program. This evaluation forms a significant part of a broader evaluation of waste education activity across Queensland, which is described in the box below.

The Waste Education Facilities Evaluation Project contains a blending of two elements; a broad cross Queensland study and a more focused and detailed evaluation of four local waste education facilities based projects, LAWMAC, Gold Coast, Maroochy and Toowoomba/EDROC [this project]. The Queensland wide evaluation collects data from councils and waste contractors and includes the development of ten case studies of good practice in education. The report contains findings, conclusions and recommendations drawn from a range of data sources. Some of the learning from the four local projects will be incorporated into the broader Queensland evaluation report.

Note that this report provides evidence in the form of quantitative and qualitative data. Quotes, in italics, are used to illustrate findings. These are drawn from program records, annual and evaluation reports and focus discussions held by the evaluator.

Objectives and Target Audiences

The objectives of the Waste Alert Program are to:

- Encourage responsible environmental values
- Encourage behavioural changes towards waste issues
- Promote environmental issues
- Identify consequences of too much waste
- Reduce the amount of waste produced
- Encourage participation
- Reduce contamination in recycling streams.

It should be noted that these are broadly consistent with the outcomes of the program that are being measured in the evaluation. These outcomes are described in the Maroochy Waste Alert Outcomes Hierarchy in Appendix 1.

The target audiences for the program are:

- Schools, students and their teachers [and through schools, the parents and the broader school community]
- Adult members of the community
- Business
- Council [staff and elected officials].

Brief Description of the Waste Alert Program

Waste Alert is an important component of the Maroochy Waste Management

Program. It is an essential element of Council's Waste Management Strategy. The program is jointly funded by Council and their waste contractor, Cleanaway.

Maroochy Council has been delivering education about waste as part of its strategic approach to the issue since 1993. The Education Centre dates back to that time, but it was originally used as a base from which to conduct tours. Council released its Waste Management Strategy in 1999 and this was the subject of a major launch, which included Waste Alert. The Waste Strategy lists the following strategies and actions under the heading of Community Commitment.

Strategies	Actions
1.1 Develop education and information programs to increase awareness of waste management issues. 1.2 Facilitate community involvement and feedback on waste reduction initiatives. 1.3 Foster initiatives within the community which reduce waste. 1.4 Recognise and reward successful community initiatives. 1.5 Work with the community to combat illegal dumping and littering through education, empowerment and provision of alternatives.	1.1 Develop, plan and implement an education and information program to raise awareness of waste management issues. 1.2 Develop, plan and implement education programs to teach the community how to avoid, reduce, reuse and recycle waste. 1.3 Run an annual competition at various age levels to promote waste avoidance, reduction, reuse and recycling. 1.4 Implement an ongoing community consultation program to maintain support, identify new opportunities and resolve community concerns as Action Plans are developed and implemented. 1.5 Undertake annual community and industry surveys. 1.6 Establish an advisory and feedback service to encourage and support initiatives within the community which reduce waste. 1.7 Develop a rewards program to recognise successful waste minimisation initiatives in commerce, industry, agriculture and the community. 1.8 Develop and implement an awareness and empowerment program to combat littering and illegal dumping.

The Waste Alert program was reinvigorated in 2003 and used a competition to generate the two program icons. Two characters were selected from this and now form the identity of the program; *3Rs Dude and Captain Can Man*.

A more complete description of the program can be found in the case study appended to this report. In summary though, the Program contains two elements:

The Waste Alert Community Program focuses on promoting sustainable waste management activities and behaviours across the community through educational and promotional activities conducted in the Education Centre [and MRF] and elsewhere. The elements of the Community Education Program are:

- Development and distribution community information materials
- Delivery of face-to-face presentations and displays
- Empowerment of community through increased knowledge of waste management in Maroochy

The Waste Alert Schools Program involves raising awareness of sustainable waste management activities and improving behaviours in relation to waste issues in Maroochy. Important elements include:

- Consistency with Education QLD guidelines
- Focusing on delivering learning in six theme areas
 - Smart Shopping
 - 3Rs in the home
 - Landfill
 - Natural Resources
 - Recycling in Maroochy
 - Closing the loop
- Focusing across all Key Learning Areas
- Identifying and working towards achieving core learning outcomes
- Conducted across learning levels
- Comprising:
 - Face-to-face lessons at the Education Centre
 - Support materials – newsletter, brochures, teachers’ resource kit, website
 - In school Waste Alert Program – classroom, assemblies, teachers’ workshops
 - Waste Alert MRF & Education Centre tours
 - Waste Alert Litter Free Lunch Program
- Assessment of program - an important feature

Components of the Study

Data for this evaluation was drawn from a number of sources. The hierarchy in Appendix 1 briefly describes each source as it provided data for each outcome. In summary sources included:

- Visit to Maroochy to gain an appreciation of the facility and its use. Then a write up of the education facility as a case study
- In-depth interview with the project manager, educators and relevant Council staff in each location to determine use and impact information for each facility.
- In-depth interview with the relevant waste contractor.
- Collection of data held by council and contractor about use, knowledge, behaviour and recycling rates within the target communities [jurisdictions].
- Review of relevant waste disposal, recycling and contamination [including waste audits] data, where available and applicable. Review of other existing data [community surveys etc].
- Three snapshot surveys; students, community teacher surveys. These were administered in the February, March 2005 period. Data is reported throughout the report. In Maroochy this was drawn from surveys completed by 287 primary school students [9 years of age and above], 9 teachers and 57 adults who attended community education sessions conduct at the facility. It should be noted that in a small number of cases not all respondents answered each question but the percentages represent those who provided an answer.
- Other stakeholder data collected by focus group discussions and questionnaires regarding their thoughts and feelings about what works and what does not, and why.

Note re the snapshot surveys: February/March are probably not the ideal months for this to occur. Bookings tend to be at a lower level than for the remainder of the year because of the time lag after the Christmas period. However as can be seen below, substantial data was obtained.

Findings

The findings of this evaluation are organised under the key evaluation questions drawn from each level of the hierarchy [appendix 1]. This process assumes that the outcomes need to be met at each level before the next outcome can be addressed.

To what extent has the Waste Alert occurred as intended?

Substantial evidence exists which shows that Waste Alert is a well delivered highly visible and well planned program. Especially in more recent times the program demonstrates an effective balance between its schools and community focuses. The program is evolving in response to school and community feedback and evaluation and so aspects are being developed all the time. The decision in 2004 to extend the use of open days and community presentations is an example of this evolution. The program is an integral part of the Council's Waste Strategy and is reported upon annually by the contractor to Council. More regular update reports are also provided.

The program has grown over time [see below] and demand is generated by the target audience. It is clear that Waste Alert is an integral program for council and the community. It is evident that the program has been accessed by a significant and increasing number of schools and over the past twelve months there has been a heightened level of community education through Probus, Rotary and other community groups.

What is the level of access to the program by schools, students and the community?

Key stakeholders indicated that *"there was an increase in the quality and promotion of Waste Alert, which coincided with the removal of the financial incentives offered to ratepayers to recycle."* Up until 2002 Maroochy had a policy in place where residents who recycled were given a financial incentive to do so through a rate reduction. Interestingly there was no reduction in recycling rates when the strategy changed and this incentive was removed. Equally interestingly, since that time more and more people have accessed the Waste Alert Program. This reflects positively on the community's understanding of waste issues and willingness to continue to recycle even though they were not provided with a financial incentive. This is a sign of an educated community, and for this Waste Alert should be given some credit.

The program has significantly increased its reach into the community over recent years; Tables 1 and 2 below indicate demand changes over the previous three year period. They should be viewed in the light of the fact that there are 41 schools in Maroochy, including 36 primary schools. There are approximately 118,000 residents in the Maroochy Council area and over 700,000 visitors per year.

Table 1.Schools

Year	Number of Schools/ Classes	Number of Students
2002	16 schools; 67 classes	1666 students
2003	32 schools; 73 classes	1914 students
2004	46 schools [some outside Maroochy]; 91 classes In addition 4 pre-schools	2344 students 80 preschool students

Note the uptake by schools in Maroochy has increased by 69% for the period between 2002 and 2004

The program was well supported by teachers: *The program had terrific material which was well presented and the children talked about it for a long time afterwards –*

referring to the issues often. This tells me that they really took in what was being presented.
 Just the right amount of time for our children and on their level. Great information for parents. Facilities are being up-dated all the time which is great.

Table 2. Community

Year	Number of Community Organisations	Number of people
2002	Schools and adults	85 adults [including teachers] attended presentations at the centre.
2003	Three major events <ul style="list-style-type: none"> • Clean Up Australia Day • Local Government Awareness Week • National Recycling week 	900 volunteers
2004: note revised approach used to access the community*	1. Presentations: 12 community organizations attended presentations. 2. Events MRF Open Days Local Government Awareness Week Nat Recycling Week	208 community members

Data collected in 2004 only, demonstrates that the community members rated the program highly [60%, excellent, 40% very good]. They also rated the presentation, information and activities as excellent 80%.

Waste Alert is strongly promoted through significant media support. Good news stories about the program and its key messages are seen often on commercial television, radio and in the local press. In the main the Council does not have to pay for media, rather the local press have been brought on board and seek appropriate stories about the program. In part this is because Waste Alert is an ongoing program, growing and changing and locally managed well. Media not only promotes the program but also assists to spread waste reduction and recycling messages into the wider community.

Waste Alert is the catalyst for lots of other projects, for example Council's *butt out bins* etc. *It is clear that the community reciprocates and appreciates the efforts that the Council puts in.*

Is there evidence of the usefulness and appropriateness of the Waste Alert program?

In general: Because of the nature of the program demand is generated by the target audience. If they don't see the program as useful and appropriate then they don't come. The data in tables 1 and 2 above indicates a high level of access. This is especially the case for schools and should be seen as a major finding because *"excursions are always an issue for schools."* They are difficult to manage, there are supervision and safety issues and cost is an important factor. Waste Alert has dealt proactively with this issue by providing subsidies for bus hire on an equitable school

by school basis. This is an innovative and effective way of dealing with an inherent problem for all fixed facility programs. Schools have responded well to this incentive, seeing it as a subsidy and accessing the program in much greater numbers than the incentive funding supports.

Not all participants in Waste Alert are taken on a tour of the MRF; arrangements are made on a case by case basis and for schools a minimum teacher/student ratio is in place. Where the tour does not occur, a slide show is used to demonstrate the MRF in action. It is clear though that the educational experience provided by the program is enhanced by the MRF tour. *“Everyone really likes seeing the MRF in action.”*

Schools: Each school visit is formally evaluated by the teachers. An analysis of the results of available surveys indicated that they rated the program very highly. *“Information presented in a way that children could easily understand. It also was relevant to them in real life situations.”*

“I have really enjoyed your support, enthusiasm and professionalism with the program and I will definitely be using it in the future.”

The following table identifies teacher satisfaction rating with the Program

Table 3: Teacher satisfaction

Year	Views About Booking System/ Preparation for Visit	Quality Teaching	Rating of Program	The Kit
2002*	100% positive	100% positive	100% positive	95% positive
2003	98% positive	98%	54% excellent 46% good 0% fair or poor	56.5% rated it as excellent 37.5% good 6% fair
2004	88% excellent 12% very good	92% excellent 8% very good	88% excellent 12% very good	No data available

* Different evaluation tool used in 2002.

In addition, from 2003 students have also been asked for their feedback on the program. In 2003, 98% of students indicated that the lesson was interesting and enjoyable and they learnt something new. In 2004, 85% rated the lesson as excellent and 15% as very good. These are encouraging results for the program.

The Waste Alert Program is well linked into the curriculum because it has been developed by teachers. This means that it can be integrated well into the classroom teacher’s teaching units and should not just be a one-off experience. The program is also delivered by teachers, which enhances its effectiveness.

Schools materials are provided to all schools that use the program. These are designed for in-school use and they are of good quality. In 2005 these have been augmented by a schools *Litter Free Lunch* program that appears to be a high quality addition to the program but lacks evaluation data at this time. The *Litter Free Lunch* is a way of accessing schools, providing in-school education and then increasing the likelihood that schools will visit the Centre.

The program is supported by three useful brochures.

- *“Maroochy Waste Alert Education Centre and MRF.”* Schools information brochure and booking form

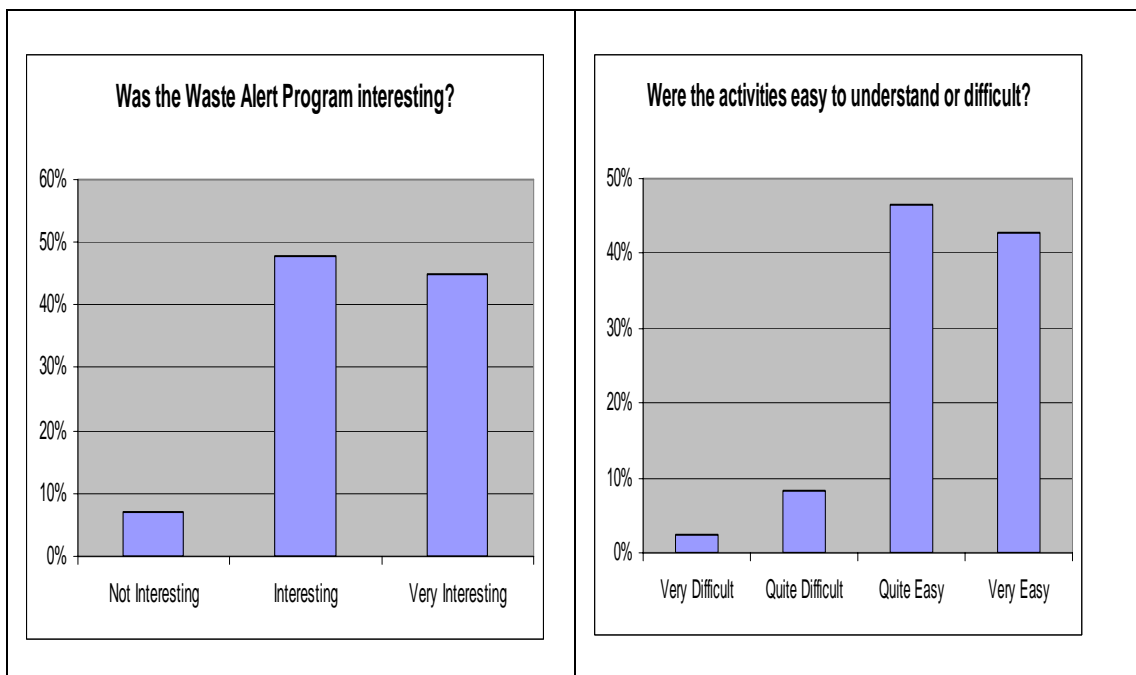
- “Maroochy Waste Alert Litter Free Lunch Program.”
- “Maroochy Waste Alert School Education Program.” More detailed information brochure for schools indicating outcomes and curriculum links

The staff of the program cite the following evidence that the program works.

- The extent of local, positive verbal feedback from parents of students who attended the centre.
- The rebooking rates.
- Teachers who move from one school to another “take the program with them.”
- The growth in the program.
- “People want to talk with me about it; even in the doctor’s surgery.”
- “My children are now recycling Nazis because of your program.”
- Those who participate in the program pass information on to others. This is especially the case with older participants.
- The Maroochy Waste Alert Program is seen as the benchmark by Cleanaway clients across Australia and perceived that way by Cleanaway. The community program evaluation form has been adopted nationally by Cleanaway.
- Increased school interest in recycling and getting bins.
- A high degree of schools rebooking the program from year to year.

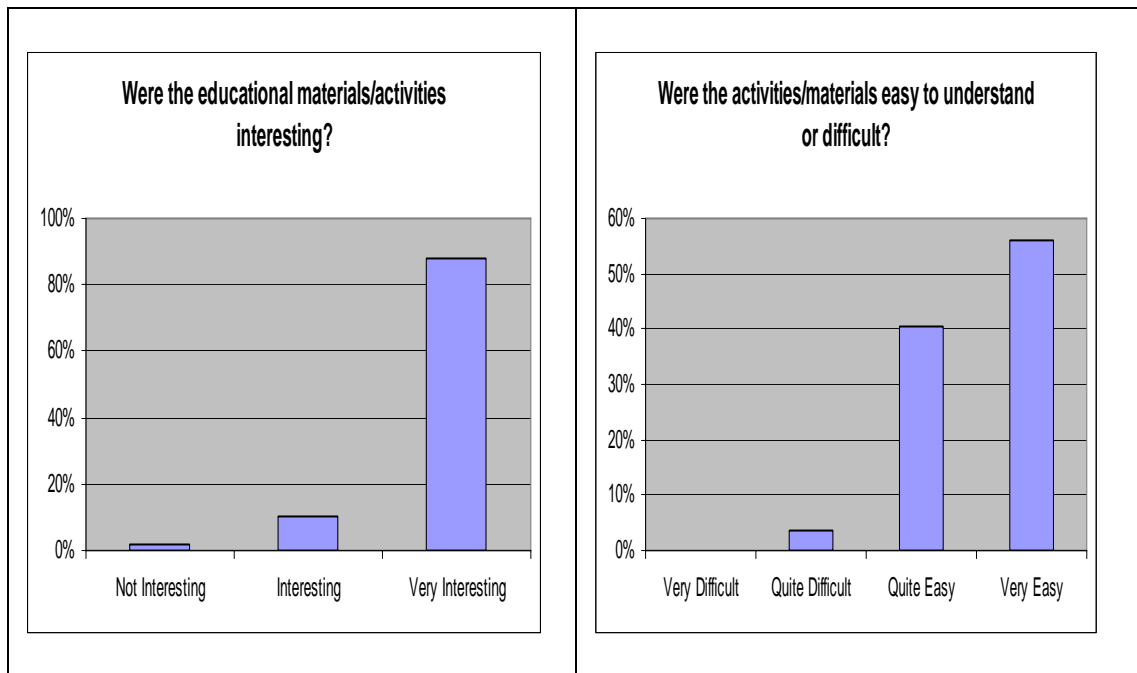
A significant problem is that schools/teachers don’t tend to forward plan their year until February and so that the schools’ program takes some time to commence each year. In general terms the Centre is almost unused until mid March

Results from the snapshot survey conducted in February March 2005 showed that school students [N = 287] found the Waste Alert program interesting [92%]. For the vast majority of students the activities were easy to understand [90%] which demonstrates that lessons are pitched at the right level.



Community: Until fairly recently the centre has been underutilized by the community. There is no community Waste Alert brochure and bookings have been ad hoc. As indicated above, in 2004 a more concentrated effort was made to use the Centre for adult community education. Regular open days are also being trialed as part of an effort to access more community use of the Centre. It is early days for this process and much work remains to be done in order to reach a baseline where it could be argued that the Centre was being used “effectively and appropriately with the adult community of Maroochy.”

Those adults who had attended Waste Alert Programs at the centre [N = 57] expressed very positive views within the snapshot evaluation. Almost 85% of people found them very interesting and the level was pitched correctly with 56% finding the content very easy to understand and a further 40% finding it quite easy.



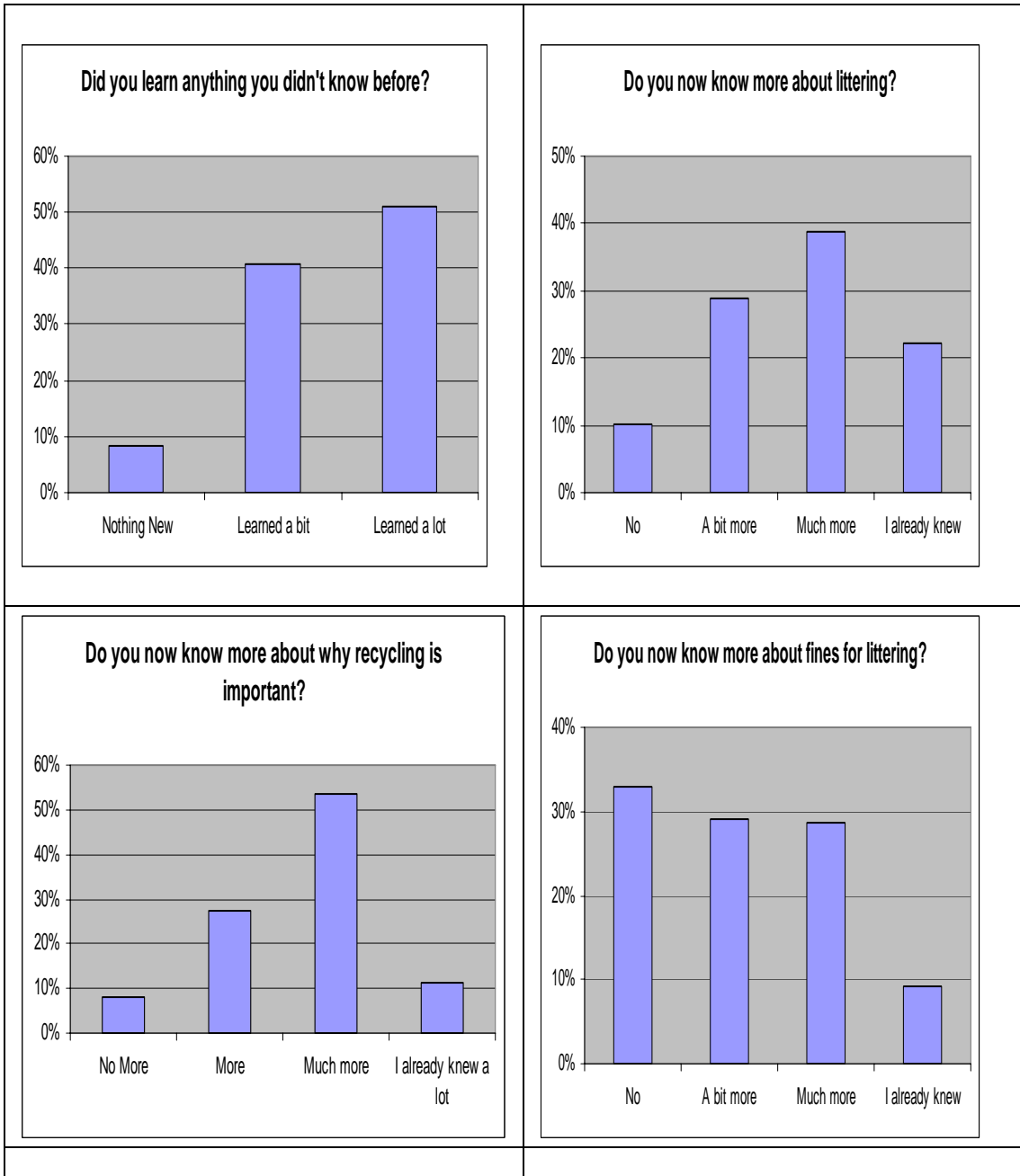
Have there been knowledge changes among participants as a result of the Waste Alert Program?

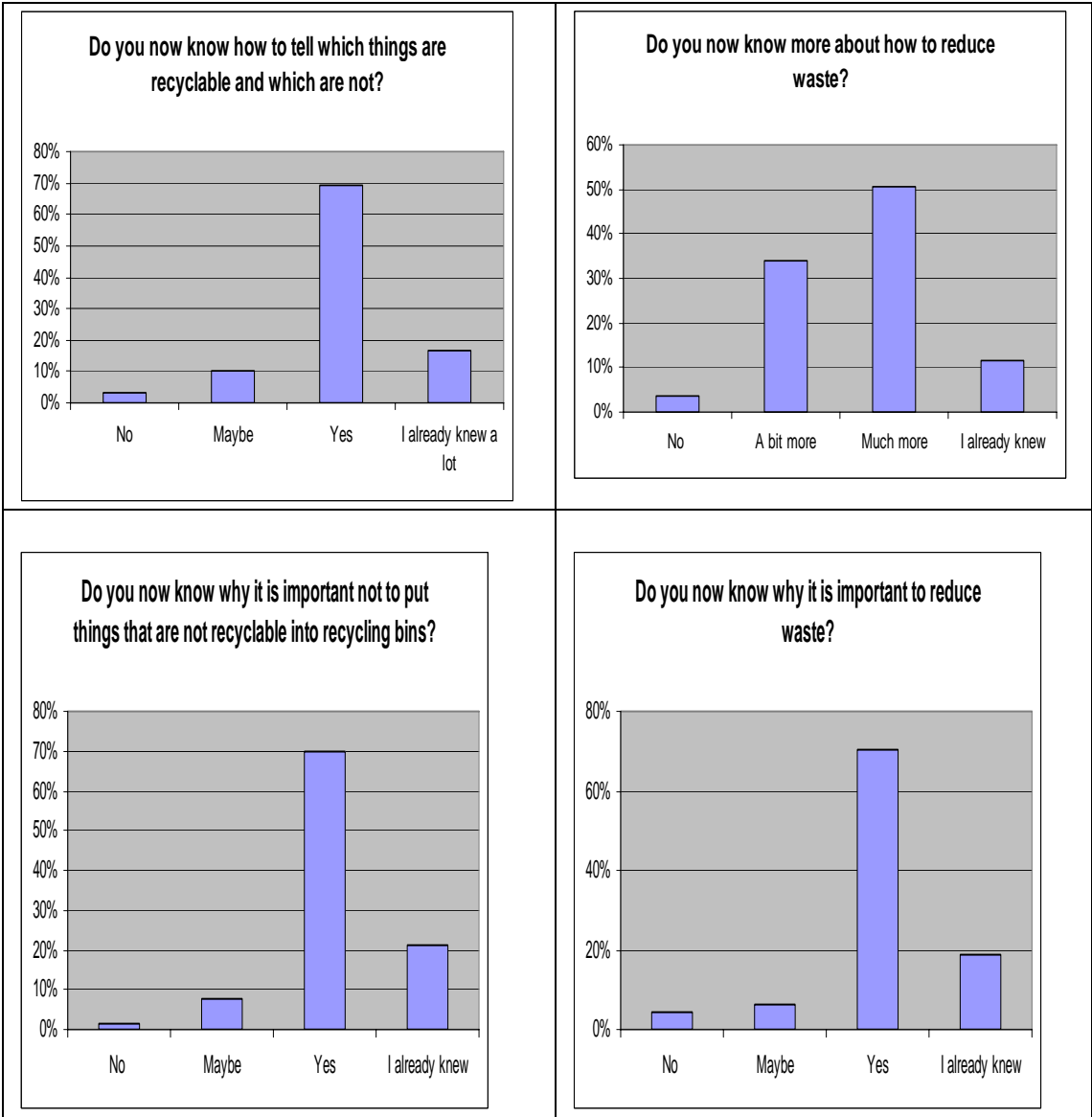
“My child knows all about recycling. He is even telling me what to put out for recycling and what goes in the garbage.”

The table below contains graphs that indicate that students have a significant self reported growth in knowledge as a result of the Waste Alert program. Students know more about recycling and littering and have an increased understanding of how to reduce waste. 80% know more about recycling; although littering is not a major feature of the program almost 50% indicated that they knew more about it.

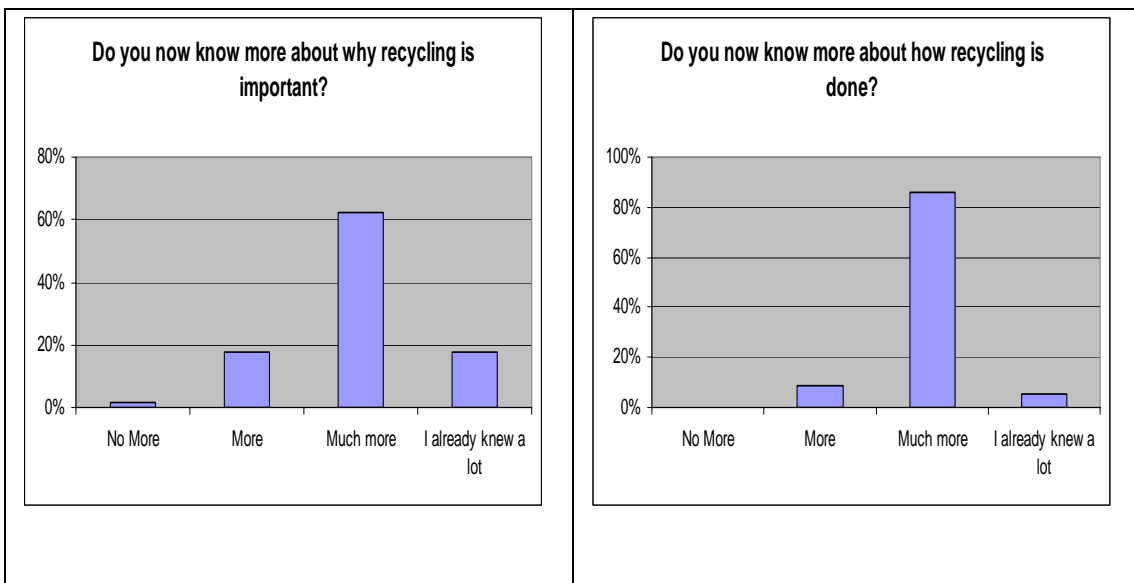
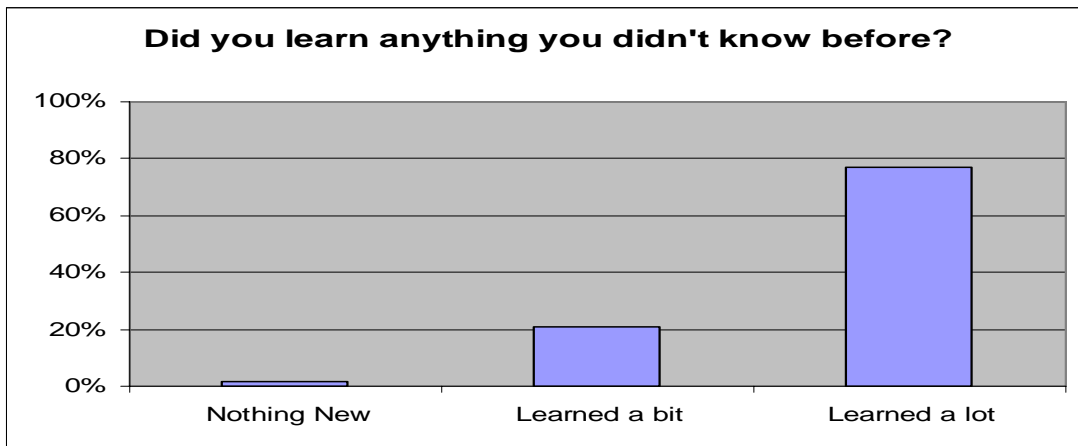
While self reported changes in knowledge are not as strong a finding as pre and post measures of knowledge change, the nature of this evaluation did not allow for data to be collected prior to the program.

The percentage of respondents who reported that they learnt new information is very high. The council has a real opportunity to build upon this level of knowledge increase.

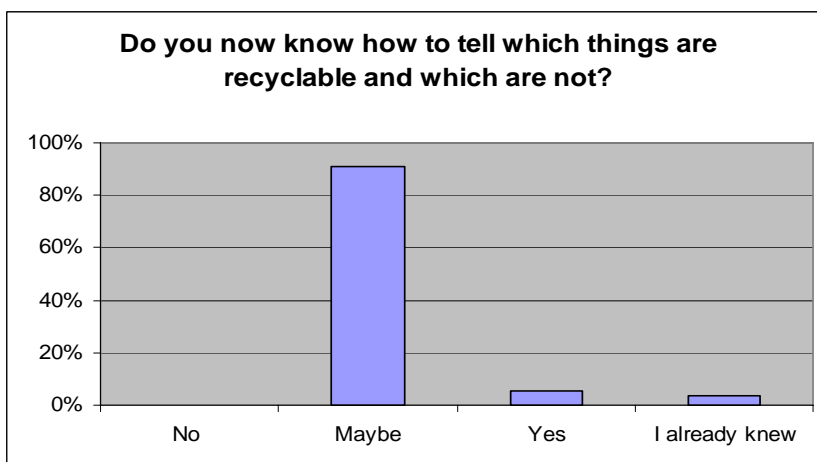




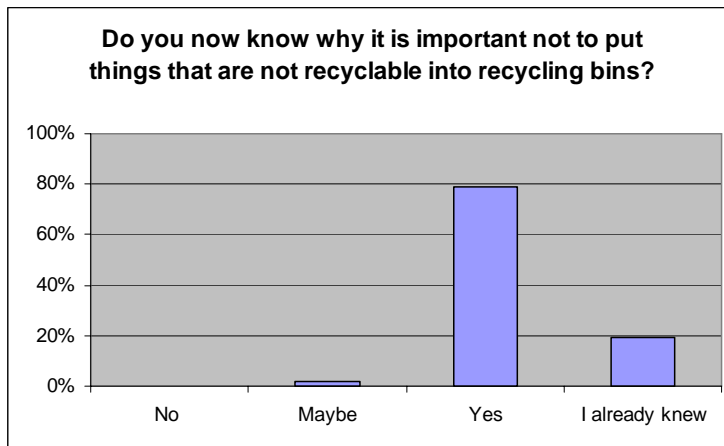
For adults the results are even more encouraging. Although the numbers completing the survey are relatively low the results are very positive. The following graphs indicate that adults have gained greatly increased knowledge from the Waste Alert presentations. Adults learnt a lot more [78%] in general and in particular they learnt more about recycling. It is clear that the project has certainly improved adults knowledge about waste issues.



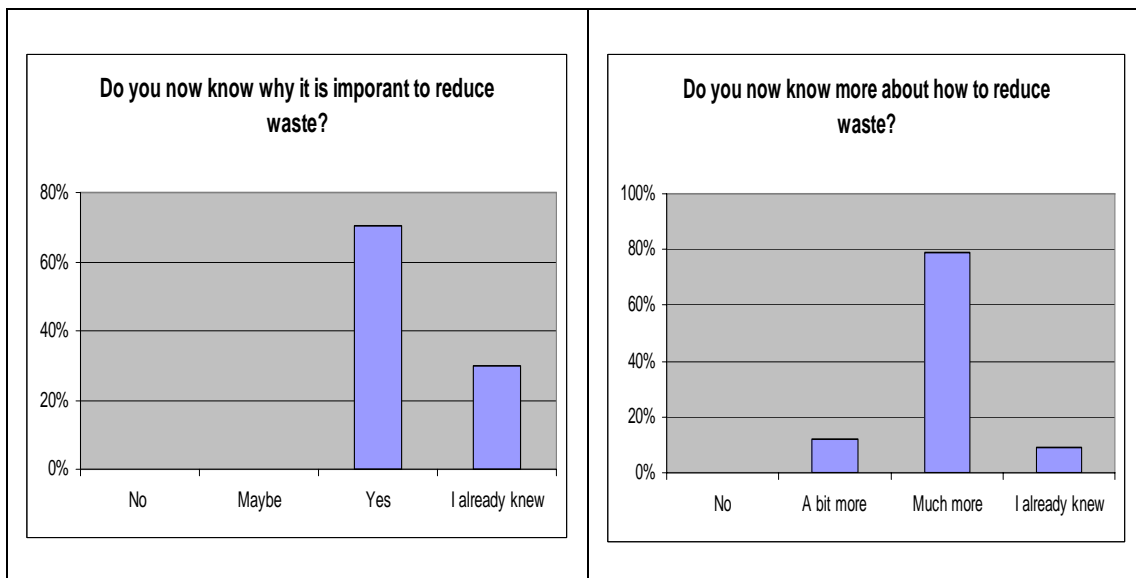
In the graph below the high “maybe” score [85%] is interesting. It could be argued that this demonstrates that the Waste Alert program needs to place much more emphasis on helping adults understand what is recyclable. The low level of entry knowledge means that adult participants in Waste Alert program are uncertain about what is recyclable.



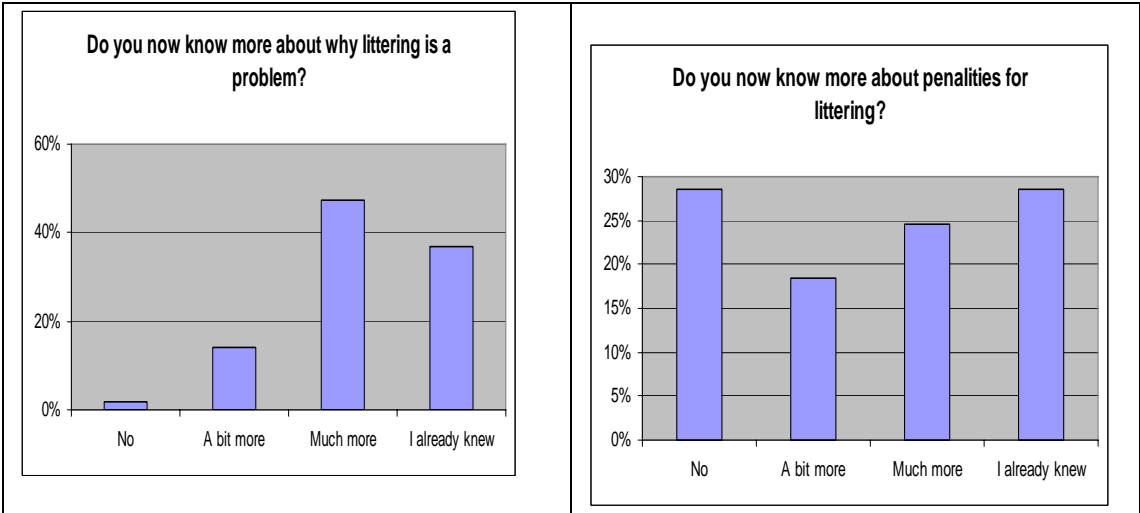
Adult participants demonstrated knowledge growth about issues related to contamination of recycled materials. This is an important finding as it indicates that participants are becoming aware of the important contextual factors that surround effective recycling programs.



Adult participants demonstrated a high self reported understanding of why [65%] and how [80%] it is important to reduce waste.



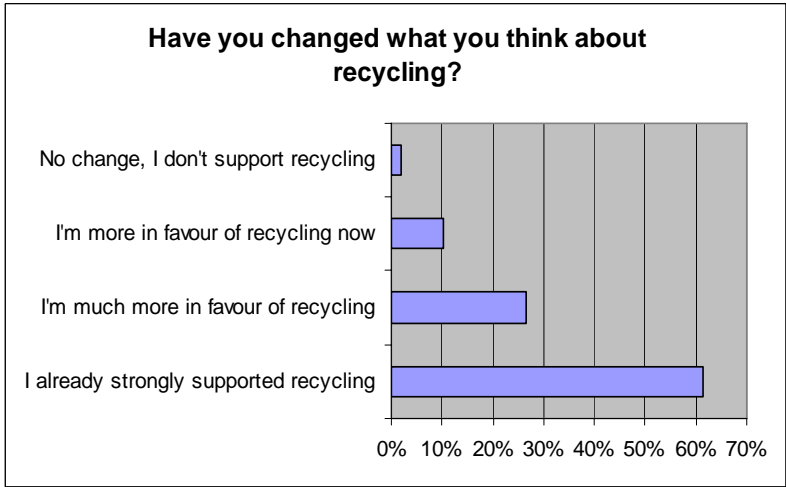
Littering knowledge also improved among adults as demonstrated by the following tables.



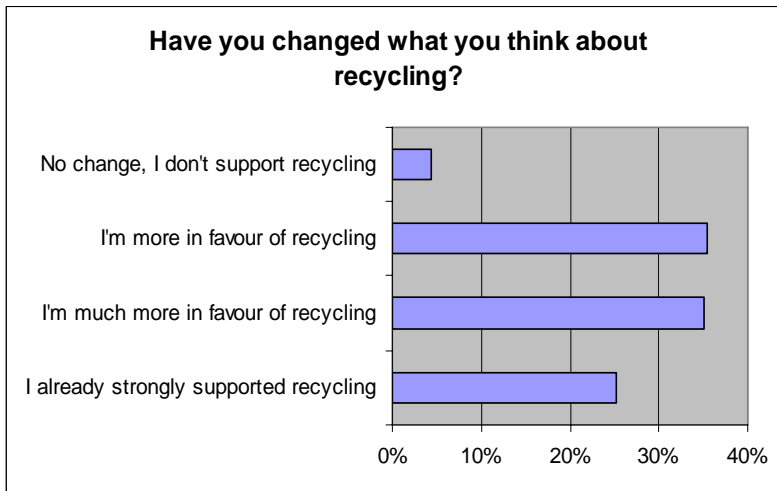
Is there evidence that Waste Alert Program has produced attitude changes among those who participated?

“This is a program that every adult and child [in Maroochy] should see.”
 Limited data is available about attitude change and it is a difficult area to measure.

Adults already demonstrated positive attitudes to recycling as evidenced by the graph below

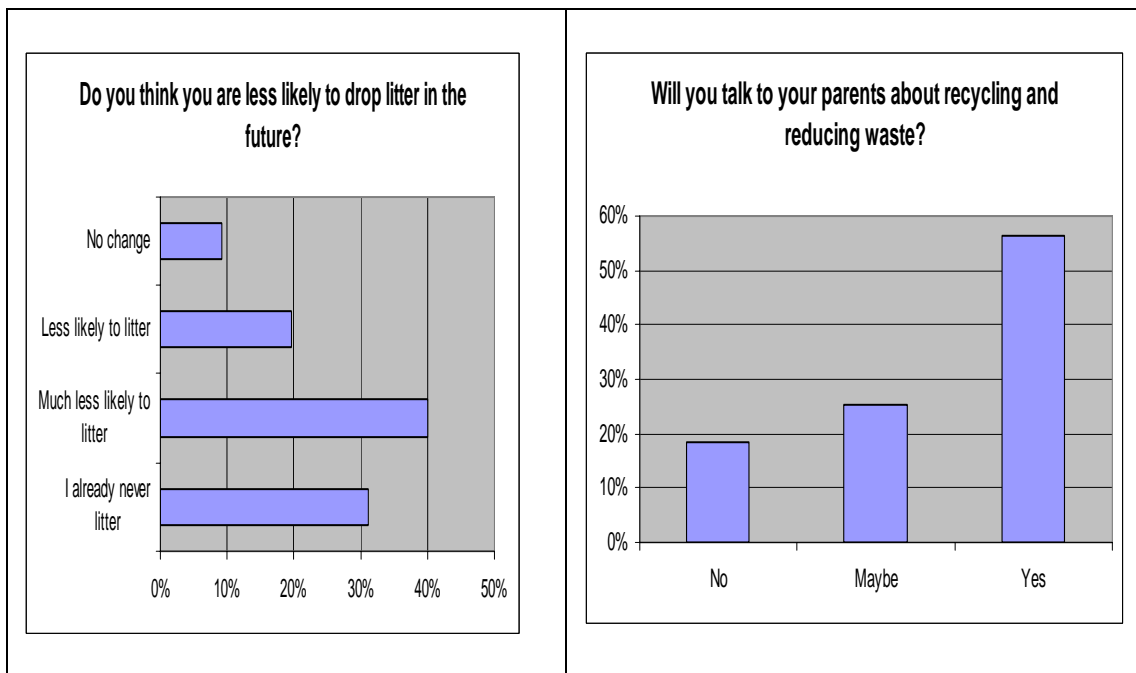


Students showed a higher degree of change in attitudes with 70% now being more/much more in favour of recycling than before the program.

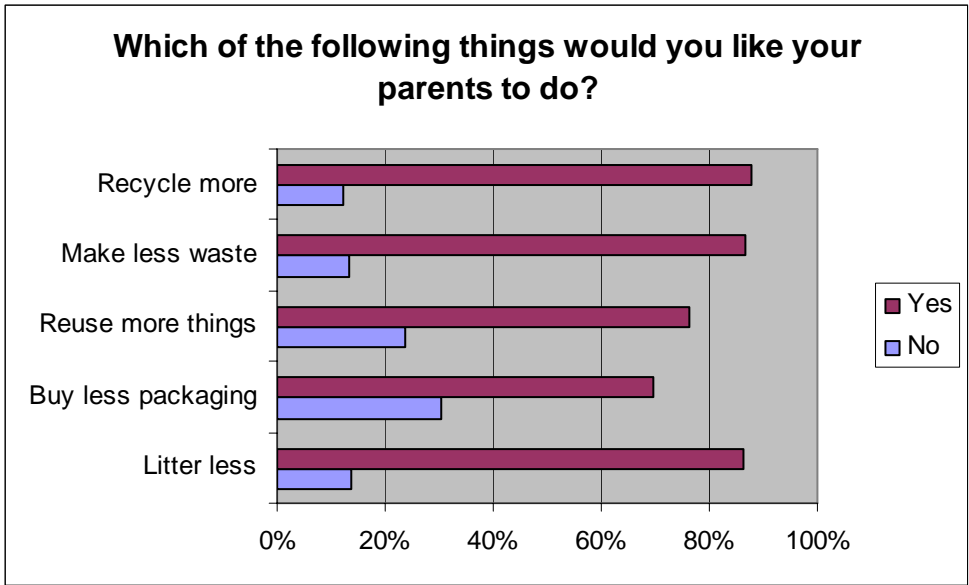


What evidence is there of the Maroochy community changing their waste related behaviour [or reporting changed behaviour intentions]?

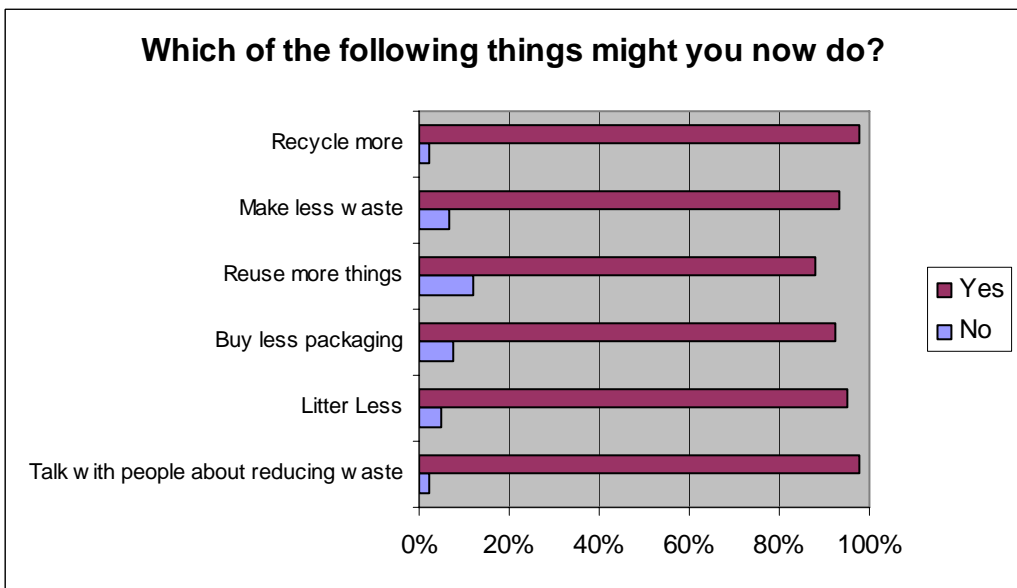
Behaviours have changed because of Waste Alert. Students are less likely to drop litter [60%] and more likely to talk with their parents about waste issues [58%].



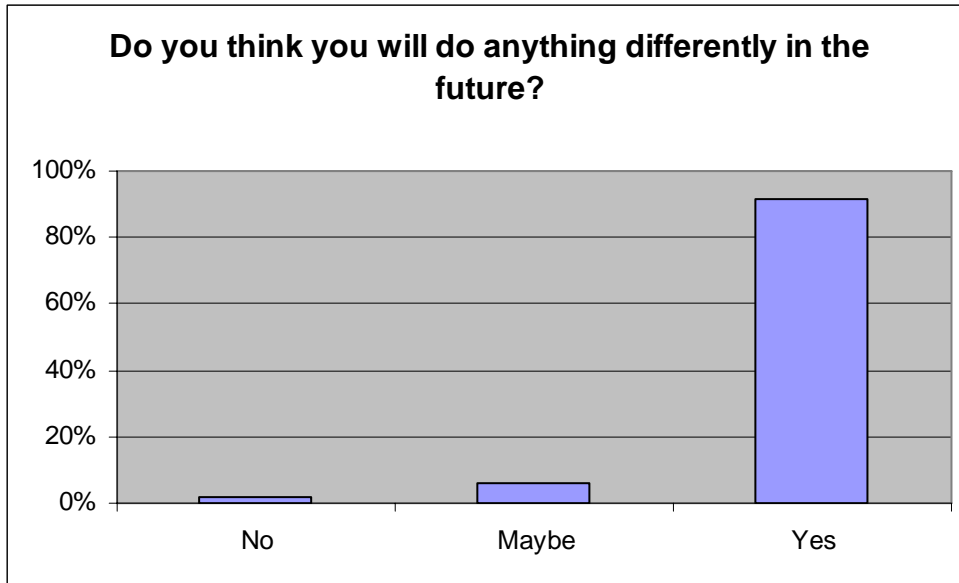
Young people also have very clear views of what it is that they want their parents to do to reduce waste.



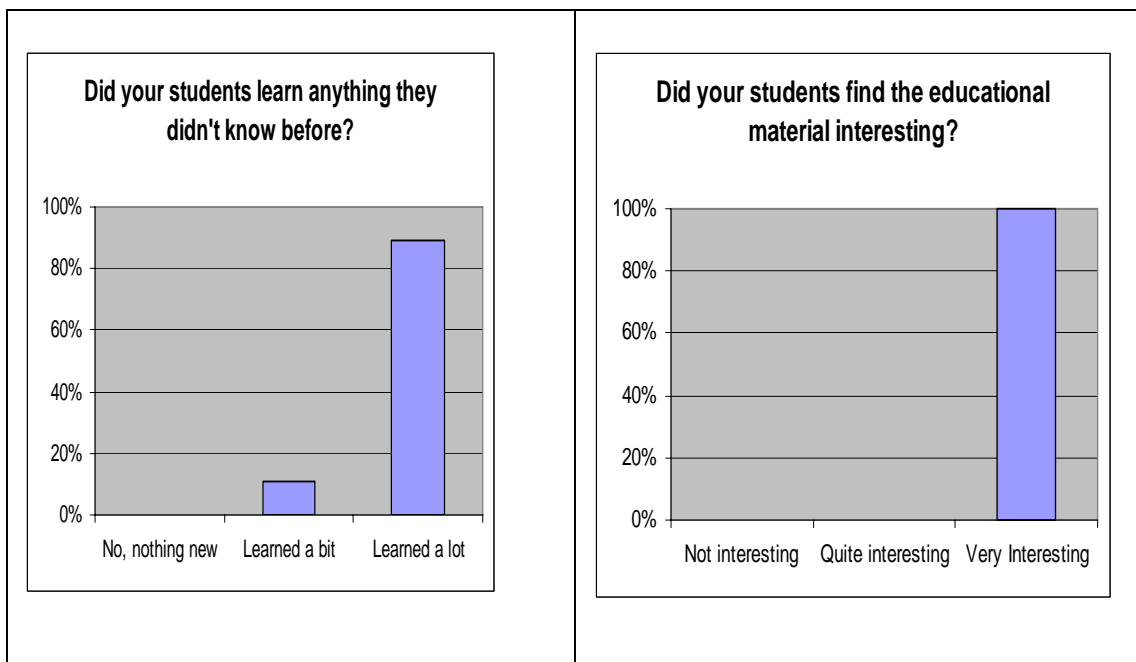
Adults are also changing their behaviours with real shift in the extent to which waste is generated.



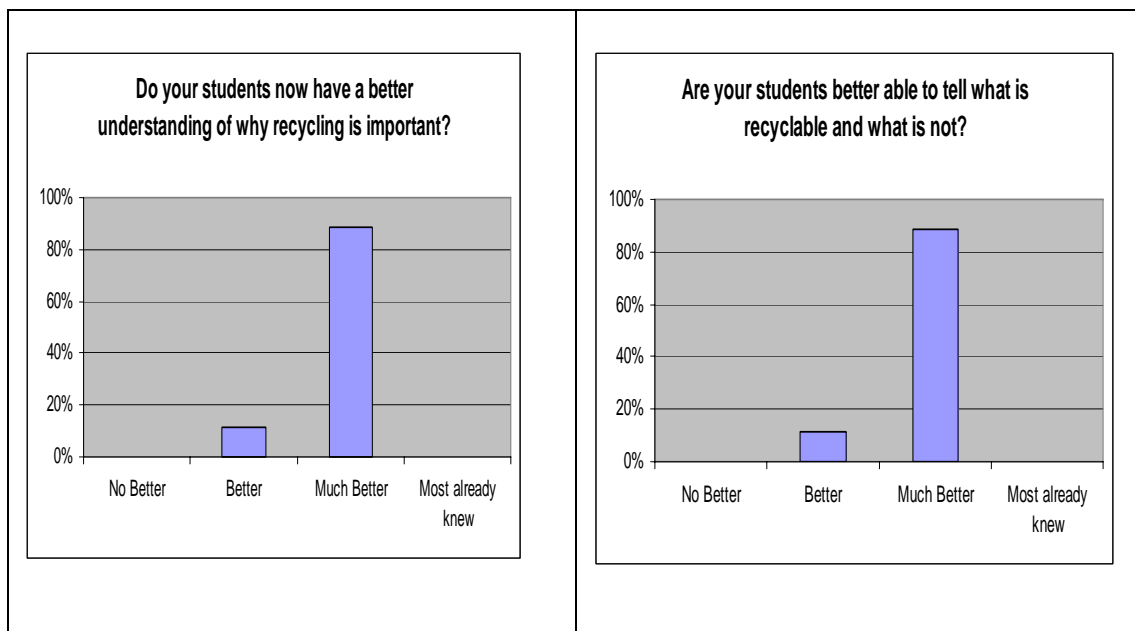
Over 90% of those adults who participated in the Waste Alert program indicated that it had a real impact on their behavior and that they will be doing things differently in the future.



For the schools component of this program teacher data provides a form of independent verification of the student's views about the program and their increases in knowledge. The teacher feedback about Waste Alert and its impact on the students is exceptionally positive. 100% of teachers indicated that the students found the material interesting and 90% of teachers stated that students learnt new knowledge during the program.



Teachers also indicated that recycling knowledge improved.

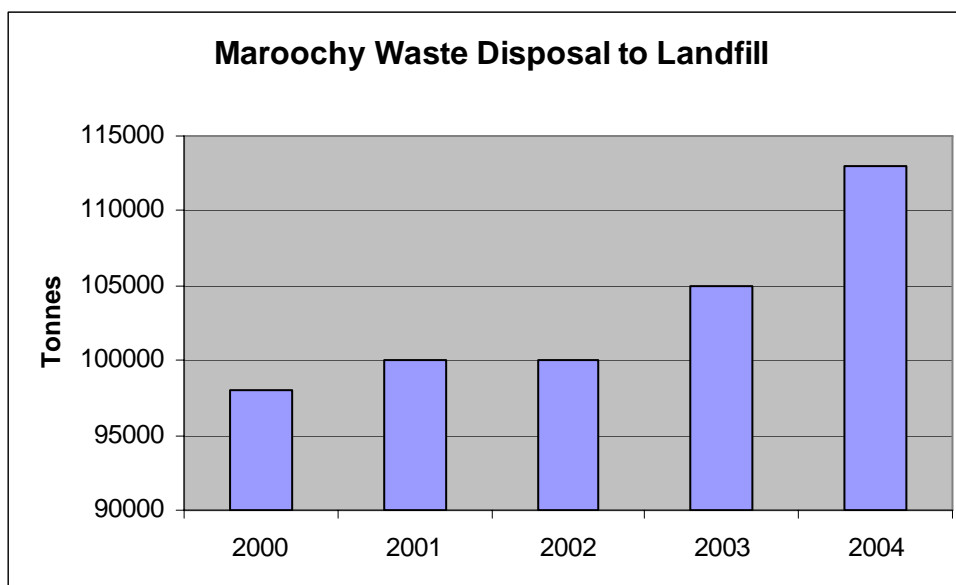


What evidence is there of increased recycling improved compliance rates, and/or reduced waste generation in Maroochy?

While any improved waste disposal, recycling rates and reduced compliance cannot be directly attributed to Waste Alert a review of the data indicates that there have been interesting changes in the rates for the period that Waste Alert has been functioning. The following key points can be drawn from the data:

- Total recycling yield has increased by almost 100% since 1993 and it has increased 74% since 2000/01.
- Largest increases have been in basic resource recovery products, paper and glass.
- Unfortunately the rate of contamination has also increased over the past 10 years. The rate of increase however has slowed a little in the period 2002/03 to 2003/04 and additional education efforts need to be undertaken to keep contamination at 2003/04 levels. It should be noted that contamination always increases during holiday periods.

Despite these improvements the following graph indicates that waste disposed to landfill has increased over the last five years. The major source of this has been the huge development boom on the Sunshine Coast in the period 2003 and 2004. It is estimated that residential disposal of waste to landfill has reduced in that period. It is clear that despite a range of programs designed to reduce waste [including Waste Alert] the disposal of waste to landfill continues to increase. Of course it is not possible to speculate on what the extent of the problem might have been in the absence of these programs.



It is notable that Maroochy Council is undertaking a household survey from 2005 onwards. This will provide more opportunity for council to obtain information about the level of engagement of the community in recycling and waste reduction and to involve them further in Waste Alert.

Other Issues

Of interest and some concern is that while there are good results from the Maroochy Waste Alert Program, Caloundra and Noosa Councils have not become involved in the use of the education centre even though they share the MRF and the same contractor. Within the data from the whole of Queensland study:

- Noosa Shire Council has indicated that they employed a consultant [not the contractor] to conduct an education program for primary school students, with a focus on litter prevention, and reduction of pollution in the waterways. They clearly have a waterways focus in their activities and have not prioritised waste reduction or recycling.
- Caloundra Shire Council indicated that they conduct a comprehensive education program. Activity is fully funded by the contractor, Cleanaway and targets schools and residents and to a slightly lesser extent business and industry and tourists. Programs are also run with service groups and in retirement villages. Cleanaway provides activity reports to Council, however no evaluation of behaviour is undertaken. A small number of Caloundra schools have visited the Education Centre for programs, but in the main school education programs in Caloundra are conducted in the schools themselves. The cost of an excursion does seem to be a major factor.

It would be interesting to compare contamination and recycling rates across the three locations but this is beyond the scope of this evaluation.

Also of interest that Maroochy Council used to deliver education from a trailer [similar to Toowoomba's Waste Wagon], however they discontinued this in 2002 because in the views of council staff and the contractor the mobile facility was difficult to manage and did not contain a sufficiently engaging educational experience for schools or community. It was useful for community events where the site could be accessed.

Major Conclusions of the Study

The following are the key conclusions of the evaluation

1. ***Is the Waste Alert effective and efficient?*** The schools component of the program is both effective and efficient for those teachers and students who attend the Education Centre. The Centre itself is a high quality teaching/ learning space. It is set up for school use and the themes of the program are clearly communicated and a high level of interactive learning is possible in the work space, with students moving in small groups from theme to theme. Displays and activities are of high quality. Stage 2 improvements that are currently being planned will improve the space and make it even more usable by school groups. In reality the lack of an outdoor [or second] teaching/ lunch space limits visits to the Centre to one class at a time, or two if a MRF tour is involved. This is a real problem for fixed facilities, where students have to be bussed in.

The Maroochy community is not being accessed sufficiently by the program and activity to date has been neither efficient nor effective, see Conclusion 2 below.

While beyond the scope of this evaluation, it is worthy of some note that Waste Alert only targets Maroochy residents, however given the burgeoning tourist numbers, increasing amounts of waste is generated by those visiting the area. It would appear that Council has no real programs in place to promote recycling by visitors [many of whom recycle at home and miss doing it on holidays]. There is an urgent need for education to be used to target visitors

2. ***Accessing the adult Maroochy community:*** While there has been growth and strategic development in this part of the program, it is clear from this study that relatively few adults are engaged. There is a need to extend the community education component of the Waste Alert program because to date activity in this area has been piecemeal and of a much lower priority than the schools program. In the main adults create most waste and are primarily responsible for engaging the household in recycling. Therefore they are an essential target population for Waste Alert.
3. ***Extending the Program in Maroochy Schools.*** While the program is accessing a high proportion [almost 100% in 2004] of the schools in Maroochy, the number of students being accessed is relatively low. On average only two classes per school are using the centre and this is a relatively low number of classes, especially in some of the larger schools. This might be because of the subsidy and the limited capacity for teachers to fund and organise excursions.

There is little obvious link between the in-school activity, including the *Litter Free Lunch* and the in-Centre components of the program. The program would be improved if such linkages were tightened and made mandatory where possible

4. ***Using Waste Alert as a vehicle for all Council's education efforts.*** Waste Alert offers a great vehicle to the council. All Council education activity could be branded as Waste Alert and the characters that are currently limited to use within the schools program could be used much more widely.
5. ***Program Evaluation***
In a similar way to other educational programs, evaluation of Waste Alert occurs only at the lower end of the outcomes scale. Data is collected about who the program reached and did the participants [and their teachers] like the program. This level of program evaluation is no longer sufficient. The Waste Alert Program would be improved if it developed a new evaluation

strategy and more effective data collection forms. The tools used in the snapshot evaluation within this project are available for adaptation and do contain knowledge, attitudes and behavioural intent questions. They could be adapted for use in Maroochy in a way that would not require significant amounts of extra data collection or analysis, although pre and post data would be advantageous.

It is also important to note that there is no evaluation of education links to waste data. No monitoring of waste to landfill or recycling rates occurs in order to measure the impact of any program. It is as thought eh intervention occurs at a level removed from the issue

6. Could the Use of the Education Centre be Extended Beyond Maroochy?

It is clear that the Centre is underutilized. Such a high quality teaching/ learning space could be put to more extensive use. The infrastructure is such that it could be used every working day between mid February and late December. The use of MRF tours could also be extended. There is limited additional capacity within the Maroochy area to extend utilization of the Centre or the MRF tours. However, the fact that the MRF services Caloundra Shire Council and Noosa Shire Council, and that Cleanaway holds contracts with all three councils, means that an opportunity exists to extend the use and impact of the Education Centre. It would be advantageous if the use of the centre could be extended into Caloundra and Noosa shires, even if only for components of their programs.

Recommendations

Recommendations about Program Administration

M1. It is recommended that Maroochy Council and the Queensland Environmental Protection Agency place the Waste Alert Program case study on their web sites.

M2. If the Characters 3Rs Dude and Captain Can Man have currency in the community it is recommended that Maroochy Shire Council consider extending their use beyond the Waste Alert Program and branding all their waste education programs with these characters [or one of them].

M3. In order to use the centre more equally across the year and to obtain much more use of the centre generally it is recommended that Maroochy Shire Council and Cleanaway use the February and March period as high profile months for community programs and events. This will require proactive booking during the later months of the previous year. It is further recommended that efforts are increased to encourage schools to book early.

M4. The MRF tour adds to the educational experience for all groups and is a major advantage in a fixed facility located near a MRF. It is recommended that Cleanaway and Maroochy Council identify how MRF tours can occur for all program participants, school students and the community. This might involve reviewing the adult/student ratio for school visits and determining how schools can bring sufficient number of adults on each visit.

M5. The MRF and Centre is currently underutilised and should be used more fully to become a fully regional education Centre. It is recommended that Cleanaway

facilitate a meeting between Noosa, Caloundra and Maroochy Councils to identify if there are ways that this might occur in the medium to longer term.

Recommendations about Evaluation

M6. It is recommended that Maroochy Shire Council and Cleanaway review the evaluation strategy and develop a more in-depth and strategic approach to evaluation. As part of this, new surveys should be developed and implemented. These need to evaluate for knowledge, attitudes and behaviour changes as a result of the program and could be conducted pre and post the program. Evaluation should not just collect data about use and service satisfaction, and improved evaluation forms are required for all program components and targets [e.g. one for adults, one for teachers and one or more for students.

M7. It is recommended that as part of the revised evaluation strategy, Waste Alert educators document anecdotal feedback more completely and use this in the annual report, along with more quantitative information.

M8. Currently impacts from the Waste Alert program are not measured by affect on waste to landfill, and increases in recycling. It is recommended that Maroochy Council and Cleanaway review how information can be collected about the environmental impact of the Waste Alert Program

Recommendations about program access

M9. It is recommended that significant efforts are made to engage the broader adult community in the Waste Alert Program. Maroochy Shire Council and Cleanaway should continue to work together to develop a strategic approach for increasing community access to the Program and implement this as soon as possible. As part of this, written material about Waste Alert should be developed for the adult community.

M10. It is recommended that Cleanaway identifies ways to link the in-school and in-centre aspects of the schools program together and increase the number of classes [and students] accessing the centre.

M11. It is recommended that further consideration is given by Cleanaway concerning how the Waste Alert program might be directed towards students in secondary schools and in TAFE. There are significant gaps in the program at this end of the target market.

M12. Excursion costs will always be an issue in schools use of fixed location programs. While Waste Alert has gone some of the way in addressing this through the subsidy program, there is a need for further consideration of this issue. This is especially the case in the light of the relatively low number of classes per school that visit the centre. It is recommended that Cleanaway and Maroochy Shire Council review current arrangements with a focus group of school teachers, in order to identify other options for extending the use of the centre.

Recommendations about program content

M13. Both the schools and community aspects of the Waste Alert Program are heavily knowledge oriented. It is recommended that the content is reviewed by Cleanaway and the Maroochy Council so that attitudes and behaviour aspects are given a higher focus. It is essential that this program strongly promotes recycling and waste reduction behaviour and is able to document affect in this area.

Appendix 1. Waste Education Facilities Evaluation: Outcomes Hierarchy: Waste Alert Maroochy Project.

This outcomes hierarchy frames the entire evaluation of this project. The outcomes to be measured are to be found in the first column of the table below. They have been developed specifically for the Waste Alert. The hierarchy should be read from the bottom of the table [outcome 1, upwards]. The outcomes are related to the program objectives by number in column 2. Key evaluation questions for each outcome are indicated in the third column and data sources are identified in column 4.

Project Outcome	Relevant project objectives	Evaluation Questions	Data Source
7. Reduced waste generation/improved recycling rates and compliance in Maroochy	Objectives 5 and 7	What evidence is there of increased recycling rates, improved compliance and/or reduced waste generation in Maroochy?	Council data on recycling rates and level of compliance Household data on waste reduction behaviour Community survey
6. Improved recycling behaviour and/or behavioural intention as a result of the Waste Alert Program	Objective 2	What evidence is there of the Maroochy community changing their waste related behaviour [or reporting changed behaviour intentions]?	Data from project informants Community survey Project reports Key informant data
5. Improved attitudes towards waste management and recycling.	Objective 1	Is there evidence that Waste Alert Program has produced attitude changes among those who participated?	Data from project informants Community survey Project reports Key informant data
4. Improved knowledge about waste/recycling/reuse/reduce issues and choices.	Objective 4	Have there been knowledge changes among participants of the Waste Alert Program?	Project evaluation results Key informant data Community survey

3. People see the Waste Alert Program as useful and appropriate	Is there evidence of the usefulness and appropriateness of the Waste Alert program?	Project admin, rebooking rates etc Feedback from teachers and community organizations.
2. People access the MRF and the Education Centre through the Waste Alert Program	Objective 6	What is the level of access to the program by schools, students and the community?	Level of uptake of the program. Schools and community
1. The Waste Alert Program is occurring as planned	Objective 6	To what extent has the Waste Alert occurred as intended?	Program delivery compared to program intent data.

Waste Alert Objectives

1. Encourage responsible environmental values
2. Encourage behaviour changes towards waste issues
3. Promote environmental issues
4. Identify consequences of too much waste
5. Reduce the amount of waste produced
6. Encourage participation
7. Reduce contamination in recycling streams

Appendix 2: Snapshot Data Collection Instruments

What Did You Learn? What Will You Do? Maroochy Council Waste Alert Education Centre Visit: Adult Community Questionnaire

Thank you for filling out this form. It will take you about five minutes. Your feedback will help us to improve our education services. Please circle the best answers for you and add your comments in the spaces provided.

DO NOT WRITE YOUR NAME ON THIS FORM.

Please give the completed form to the staff member on site

1	Were the educational materials/activities in the Maroochy Council Waste Alert Education Centre interesting? 1 Not interesting 2 Quite interesting 3 Very interesting
2	Were they easy to understand or difficult? 1 Very difficult 2 Quite difficult 3 Quite easy 4 Very easy
3	Did you agree with what they were saying? 1 No, I disagreed with most 2 Yes, I agreed with most 3 I agreed with all of it
4	Did you learn anything you didn't know before? 1 No, nothing new 2 I learned a bit 3 I learned a lot What were the main things you learned? _____
5	Do you now know more about why recycling is important? 1 No more 2 More 3 Much more 4 I already knew a lot
6	Do you now know more about how recycling is done? 1 No more 2 More 3 Much more 4 I already knew a lot
7	Do you now know how to tell which things are recyclable and which are not? 1 No 2 Maybe 3 Yes 4 I already knew
8	Do you now know why it is important not to put things that are not recyclable into recycling bins? 1 No 2 Maybe 3 Yes 4 I already knew
9	Do you now know why it is important to reduce waste? 1 No 2 Maybe 3 Yes 4 I already knew
10	Do you now know more about how to reduce waste? 1 No 2 A bit more 3 Much more 4 I already knew
11	Do you now know more about why littering is a problem? 1 No 2 A bit more 3 Much more 4 I already knew
12	Do you now know more about penalties for littering? 1 No 2 A bit more 3 Much more 4 I already knew

13	<p>Have you changed what you think about recycling?</p> <p>1 No change, I don't support recycling 2 I'm more in favour of recycling now 3 I'm much more in favour of recycling 4 I already strongly supported recycling</p>
14	<p>Do you think you will do anything differently in future?</p> <p>1 No 2 Maybe 3 Yes</p> <p>If yes, what will you do differently?</p> <p>_____</p>
15	<p>Which of the following things might you now do?</p> <p>1. Recycle more 1 No 2 Yes 2. Make less waste 1 No 2 Yes 3. Reuse more things 1 No 2 Yes 4. Buy less packaging 1 No 2 Yes 5. Litter less 1 No 2 Yes 6. Talk with people about reducing waste 1 No 2 Yes</p>

Thank you very much for your help

**What Did You Learn? What Will You Do?
Maroochy Council Waste Alert Education Centre Visit: School Students
Survey**

Thank you for filling out this form. Your answers will help us to improve our lessons. Please circle the best answer for you and add your comments in the spaces provided. **DO NOT WRITE YOUR NAME ON THIS FORM.**

Please give the form back to your teacher

1	<p>Was [Maroochy Council Waste Alert Education Centre] interesting?</p> <p>1 Not interesting 2 Quite interesting 3 Very interesting</p>
2	<p>Were the activities easy to understand or difficult?</p> <p>1 Very difficult 2 Quite difficult 3 Quite easy 4 Very easy</p>
3	<p>Did you agree with what they were saying?</p> <p>1 No, I disagreed with most 2 Yes, I agreed with most 3 I agreed with all of it</p>
4	<p>Did you learn anything you didn't know before?</p> <p>1 No, nothing new 2 I learned a bit 3 I learned a lot</p> <p>What were the main things you learned?</p> <p>_____</p>

5	Do you now know more about why recycling is important? 1 No more 2 More 3 Much more 4 I already knew a lot
6	Do you now know how to tell which things are recyclable and which are not? 1 No 2 Maybe 3 Yes 4 I already knew
7	Do you now know why it is important not to put things that are not recyclable into recycling bins? 1 No 2 Maybe 3 Yes 4 I already knew
8	Do you now know why it is important to reduce waste? 1 No 2 Maybe 3 Yes 4 I already knew
9	Do you now know more about how to reduce waste? 1 No 2 A bit more 3 Much more 4 I already knew
10	Do you now know more about littering? 1 No 2 A bit more 3 Much more 4 I already knew
11	Do you now know more about the fines for littering? 1 No 2 A bit more 3 Much more 4 I already knew
12	Have you changed what you think about recycling? 1 No change, I don't support recycling 2 I'm agree more with recycling now 3 I agree much more with recycling 4 I already strongly supported recycling
13	Do you think you will be less likely to drop litter in future? 1 No change 2 Less likely to litter 3. much less likely to litter 3 I already never litter
14	Will you talk to your parent/s about recycling and reducing waste? 1 No 2 Maybe 3 Yes
15	Which of the following things would you like your parents to do? a. Recycle more 1 No 2 Yes b. Make less waste 1 No 2 Yes c. Reuse more things 1 No 2 Yes d. Buy less packaging 1 No 2 Yes e. Litter less 1 No 2 Yes

Thank you very much for your help

**What Did You Learn? What Will You Do?
Maroochy Council Waste Alert Education Centre Visit: Teacher Feedback
Questionnaire**

Thank you for filling out this form. It will take you less than ten minutes to complete. Your feedback will help us to improve our educational services. Please circle the best answers for you and add your comments in the spaces provided. **DO NOT WRITE YOUR NAME ON THIS FORM.**

Please give the completed form to the staff member on-site.

1	Did your students find the educational materials in the Maroochy Council Waste Alert Education Centre interesting?
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	<p>1 Not interesting 2 Quite interesting 3 Very interesting</p> <p>If interesting, what made it interesting?</p> <hr/> <hr/> <p>If <u>not</u> interesting, how could it have been more interesting?</p> <hr/> <hr/>
2	<p>Did they find these materials/activities easy to understand or difficult?</p> <p>1 Very difficult 2 Quite difficult 3 Quite easy Very easy</p> <p>If difficult, what made it difficult? What could have made it easier?</p> <hr/> <hr/> <p>If easy, what made it easy?</p> <hr/>
3	<p>Did your students learn anything they didn't know before?</p> <p>1 No, nothing new 2 They learned a bit 3 They learned a lot</p> <p>What were the main things they learned?</p> <hr/> <hr/>
4	<p>Do they now have a better understanding of why recycling is important?</p> <p>1 No better 2 Better 3 Much better 4 Most already knew</p>
5	<p>Do you they now have a better understanding of how recycling is done?</p> <p>1 No better 2 Better 3 Much better 4 Most already knew</p>
6	<p>Are they now better able to tell which things are recyclable and which are not?</p> <p>1 No better 2 Better 3 Much better 4 Most already knew</p>
7	<p>Do they now have a better understanding why it is important to keep non-recyclable items out of recycling bins?</p> <p>1 No better 2 Better 3 Much better 4 Most already knew</p>
8	<p>Do they now have a better understanding why it is important to reduce waste?</p> <p>1 No better 2 Better 3 Much better 4 Most already knew</p>
9	<p>Do they now know more about how to reduce waste?</p> <p>1 No 2 A bit more 3 Much more 4 Most already knew</p>
10	<p>Do they now know more about the cost of littering?</p> <p>1 No 2 A bit more 3 Much more 4 Most already knew</p>
11	<p>Do they now know more about penalties for littering?</p>

	1 No	2 A bit more	3 Much more	4 Most already knew
12	<p>Did you find the messages in these materials appropriate? 1 No, I disagreed with most 2 Yes, I agreed with most 3 Yes, I agreed with all</p> <p>Which messages did you disagree with or find problematic, if any?</p> <hr/> <hr/> <hr/>			
13	<p>If you noticed any gaps in the information provided, what were they?</p> <hr/> <hr/> <hr/> <hr/>			
14	<p>Please outline how this session fits in with other lessons or school activities.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
15	<p>Can you suggest any ways to improve waste education for school children or the community in general?</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>			
16	<p>Are there any other comments you would like to make?</p> <hr/> <hr/> <hr/> <hr/>			

Thank you very much for your help