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# IN YOUR HEADS, AND ON THE GROUND – WHAT’S THE LATEST LITTER DATA AND SOCIAL RESEARCH TELLING US?

The new Don't be a Tosser campaign launched in 2018 (4 March – 21 April). It built on the previous Hey Tosser! campaign which was very successful in raising litter as an issue and something worth talking about.

## What is the research behind the campaign?

The research behind the campaign can be found in more detail in the Green Paper contribution from Paper Moose (Nick Hunter), which covers the creative concepts of the campaign and how they were developed, and IPSOS Social Research Institute (Stuart Clark), which covers the underlying social research.

To briefly recap the underlying research and concepts behind the Don't be a Tosser campaign:

- People, even heavy litterers, dislike seeing others litter. It is not socially acceptable
- Almost everyone that litters will do it discreetly, when they think no one is looking
- Most believe they won't get caught (because they think no one is watching them)
- A fine is a deterrent but only if there is a belief that it will actually happen
- Most people don't recognise themselves as a litterer – a litterer is someone who is selfish, lazy, dirty and that is not how we like to think of ourselves.

So the Don't be a Tosser campaign was created to shift the needle from awareness of litter and littering to action on littering. The objectives of the campaign are:

- To embed the social norm to 'put your rubbish in the bin' or 'take it with you'
- To cultivate the social norm that littering is wrong
- To increase the perception that litterers will be seen and fined
- To increase the number of people that report littering from vehicles

*The driving concept behind Don't be a Tosser – If it's not in the bin, it's on you:*

*Lead people to recognise themselves as litterers in a lighthearted, non-threatening way. Lead people to understand that you don't have to be a frequent litterer to be a tosser. And then show how easy it is to feel better about yourself by changing your behaviour.*

The campaign uses excuses for littering that people commonly use for their own behaviour, or that resonate with people:

- I'm not a litterer, I only do it sometimes
- There isn't a bin, what else can I do?
- It's not a big deal, someone else will pick it up
- I know it's wrong so I do it when no one is watching
- I toss my butts, they're not a big deal
- I didn't know I could get fined

The pathway to changing behaviour is:

- (1) Self-recognition – 'Oh dear, I say that. That isn't great.'
- (2) It is uncomfortable thinking of myself as a litterer
- (3) I can change – I have a choice to not be a tosser

- (4) it is easy to change – put my rubbish in the bin.

## How is the campaign evaluated?

The Tosser campaign is tracked after every 'burst' – around every 6 months – through a 20 minute online survey to 800 NSW residents aged 18+ years representative of the population (age, gender and region).

An additional sample of 200 is made of smokers, 18-24 year olds and people from culturally and linguistically diverse backgrounds (CALD), to further understand how the campaign is working against these target audiences. CALD participants are surveyed in their own languages – Korean, Mandarin, Vietnamese and Arabic. These are the 4 languages with the lowest reported proficiency in English.

## Has the new campaign made a difference?

In short, yes. The campaign has made a difference even after 1 burst.

(All of the following results are taken from Post Campaign Research Results 2018 - June 2018 by Cadreon, prepared for the EPA.)

### **40% of the community now recognise themselves as litterers.**

This has jumped 8% since the last Hey Tosser! campaign in 2017. On the surface it sounds like this should be bad news, but what it shows (we think) is that the new campaign has created a greater self-awareness of people's own littering behaviour. The more people are aware of their own behaviour the greater ability there is to create change.



Sharon Owens, NSW EPA, Stuart Clark, Ipsos and Nick Hunter, Papermoose

### What if people aren't honest/ don't recognise their own littering behaviour?

We know that people might not recognise themselves as litterers or want to be as honest as they could, so we asked the 60% of people that had said they "never litter" this question:

*"Please indicate how often you may have disposed any of the following items without placing them in the bin?"*

Through the addition of this question we've been able to see that 36% of people that don't classify themselves as litterers actually do litter.

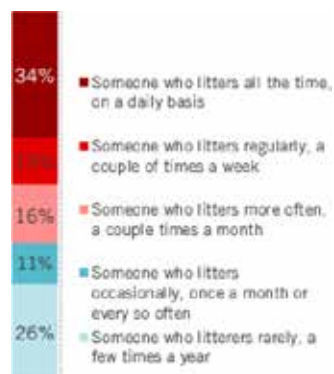
### Is there a difference between Self-Reported litterers vs Litter Actual Behaviour?

Ultimately the answer is no, litterers are spread evenly across all demographics. The graphs below confirms our broad target audience as adults 18 years and over, and supports the research which indicates that 'everyone litters something, somewhere, sometime'.

The split across the various demographics - metro, regional and gender is relatively even. However, it does show that 18-24, smokers and CALD are most aware of their littering behaviour.

### Who does the community consider a tosser?

This is a question that the EPA began to ask in 2018 and it shows that 53% of the community consider that a Tossler is someone that litters a couple of times a month or less. Our aim is to grow that percentage so that more people recognise that a Tossler is someone who litters even once.



### Self-reported littering

KPI - Reduce the number of people who self-report that they litter



### Deeper Insight into Self Reported Littersers Post 2018

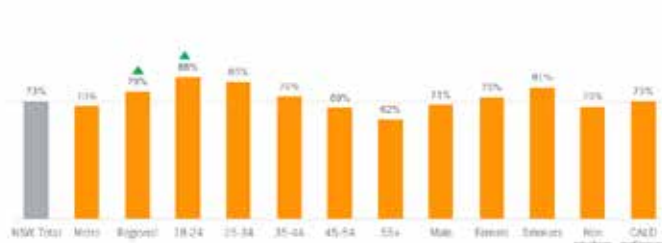
NSW P18+ (6.4m)



### Self-reported littering – POST 2018



### Litter Actual behaviour – Post 2018



# IN YOUR HEADS, AND ON THE GROUND – WHAT’S THE LATEST LITTER DATA AND SOCIAL RESEARCH TELLING US?

## The new campaign creative – how did the excuses perform?

We saw a significant change in the acceptability of the excuse “there isn’t a bin, what else can I do?”. Acceptability of the excuse fell from 37% to 25%. This is the most used reason for littering in the EPA’s survey, so we need to keep focus on this excuse to make people aware this isn’t an acceptable reason to litter.

We did see small changes amongst the other excuses, in particular: “I’m not a litterer, I only do it sometimes”. The other excuses used in the campaign are ones where the community already identify these as poor and unacceptable reasons to litter. We will continue to use all excuses and assess their influence on attitude and behaviour.

## Campaign success – Report a Tosser creative

The Report a Tosser message continues to hit home, but we can still increase knowledge and acceptance in the NSW community. The work of local councils, NSW Police and Roads and Maritime Services have been a strong contributor to these results.

- Awareness of fines littering is at the highest ever - 75%, an increase of 8% since the last campaign
- There is an increased belief that you will be seen and fined, with 27% now thinking that this is likely or somewhat likely. This has been a slow indicator to move since 2014, but since 2017 there has been a 5 percentage point jump.
- There was a 6% increase in people ‘very likely’ and ‘somewhat likely’ to report littering from vehicles,

	Baseline	Pre campaign: pre exposure of ads	Post exposure
<b>Acceptable (always + sometimes)</b>	<b>19%</b>	<b>13%</b> ▼	<b>7%</b> ▼
Self-reported Non litter (60%)	6%	5%	2%
<b>Self-report litter (40%)</b>	<b>37%</b>	<b>25%</b> ▼	<b>15%</b> ▼
Smokers (30%)	35%	21%	13%
18-24 yo (19%)	31%	24%	14%
Not aware of fine (25%)	29%	17%	13%
<b>Litter actual behaviour (73%)</b>	<b>22%</b>	<b>16%</b> ▼	<b>8%</b> ▼



with an increase from 45% in pre-campaign results to the current 53% post campaign.

- Awareness of how to report has increased from 35% pre-campaign to 48%.

We see strong peaks of reports submitted, fines being issued and number of reporters register whenever the Tosser campaign is active.

To 30 June 2018, current figures for Report a Tosser are:

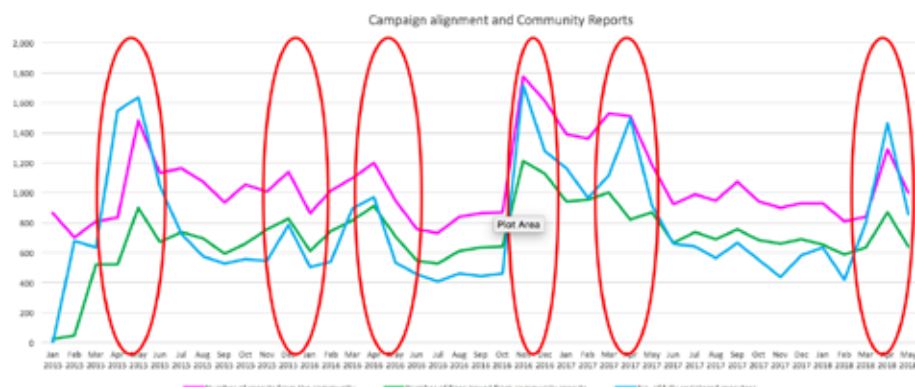
- 32,729 reporters
- 29,635 fines
- 43,246 reports.

As a comparison, in 2013-14 the EPA issued 500 fines for littering from a vehicle

## Other key results

There is strong and continuing community support and expectations around government action on litter:

- 94% of the community feel the NSW Government should be addressing the issue of littering. This has increased 17 points since mid-2016 when this question was added to the evaluation survey.
- 85% of the community feel litter is an important issue
- 84% of the community support the NSW Government issuing fines for littering
- 9 out of 10 people approve of the ‘Don’t be a Tosser! If it’s not in the bin, it’s on you’ message (92%).



- NSW litter data for 2017-18 has recently been received. Since 2013-14, the baseline year for the Premier's Priority, litter volume has decreased by 37%, and the number of littered items has decreased by 27%.
- Most of this reduction (24 percentage points) occurred prior to the start of Return and Earn on 1 December 2017 and shows the impact of the EPA's broad litter prevention program including the Tosser! campaign.
- The data reflects 6 months of operation of Return and Earn and shows its immediate impact on drink container litter (and therefore on litter more broadly) in NSW.

### Where to next?

The Don't be a Tosser campaign will run across three bursts with a budget of \$3,450,000

- **Mid October - Mid November - 2018 (Burst 1) - five weeks**  
This phase will be used as an awareness building phase to reintroduce the Don't be a Tosser message to the community. It will be led by TV and online video (ie 'catch-up TV'). Building a solid foundation of the TV ads is critical in success. This burst will also use radio (ads and Australian Traffic Network live reads), social media (Facebook, Instagram, influential bloggers), out of home (such as bus sides, billboards, street signage, taxi backs).

The messaging will include an element focussing on litter in the marine environment, which aligns with the commitments within the

NSW Marine Estate Management Strategy recently released by the Minister

- **April - May - 2019 (Burst 2) - six weeks**  
Burst 2 will be larger. Again, TV and online video will lead the campaign, and the EPA will capitalise on relaunch of popular TV shows coming back on air. There will be a much bigger out of home component as the community become more familiar with the concept of the TV spot and draw quicker connections with the print as a reminder to put their rubbish in the bin. This also takes advantage of school holiday and Easter travel.
- **Mid October - Mid November - 2019 (Burst 3) - five weeks**  
With awareness and familiarity of the new campaign anticipated to be strong, we will again launch across all the media channels, with a slightly stronger focus on out of home advertising such as small and large-scale billboards, taxi backs, bus sides, street furniture. We will use strategic placement of OOH to serve as key reminder of the correct behaviour in key outdoor environments that are close.

# PARRAMATTA RIVER LITTER - WHOSE RESPONSIBILITY IS IT AND WHAT ARE WE DOING ABOUT IT?

The upper reaches of the Parramatta River flows through a number of councils in western Sydney. The former Auburn Council (now Cumberland), were trying to reduce litter in creeks flowing into the Parramatta River, but found many of them started flowing in neighbouring council areas or through state government owned infrastructure. As a result, Auburn Council were having difficulty delivering a holistic reductions to litter without looking at the bigger picture.

To start the conversation, in 2016 Auburn Council bought together a number of neighbouring councils together along with some NSW government agencies and organisations with responsibilities for water flowing into the upper reaches of the Parramatta River. The group, which included RMS, Sydney Water,

the Parramatta River Catchment Group and NSW EPA, had a discussion about each of the various waterways and assets owned or managed by each of the organisations to help the group understand the influencing factors to enable improved council litter reduction projects.

What stemmed from this was a working group of councils and government agencies who were committed to pooling and reviewing their own litter trapping assets, data and practices to develop a baseline of litter flowing of litter into the upper reaches of the river, as defined by the project group.

The data and asset review, and development of the litter flow baseline was led by the Western Sydney Regional Organisation of Councils (WSROC). WSROC engaged Arcadis

Consulting to assist on the project. This process involved each organisation providing data on the location of any litter trapping assets (such as Gross Pollutant Traps [GPTs], litter booms or trash racks) litter audit and compositional data, collection and maintenance frequencies, clean up activities and education programs. This was to be the first step to assessing how to improve litter into the river.

It turns out that this was much easier said than done. Despite the commitment of members of the project group, obtaining the data was far more difficult and timely than anticipated. There were some key barriers that regularly were faced by staff, which include:

- Data, including asset locations, not able to be found or not known

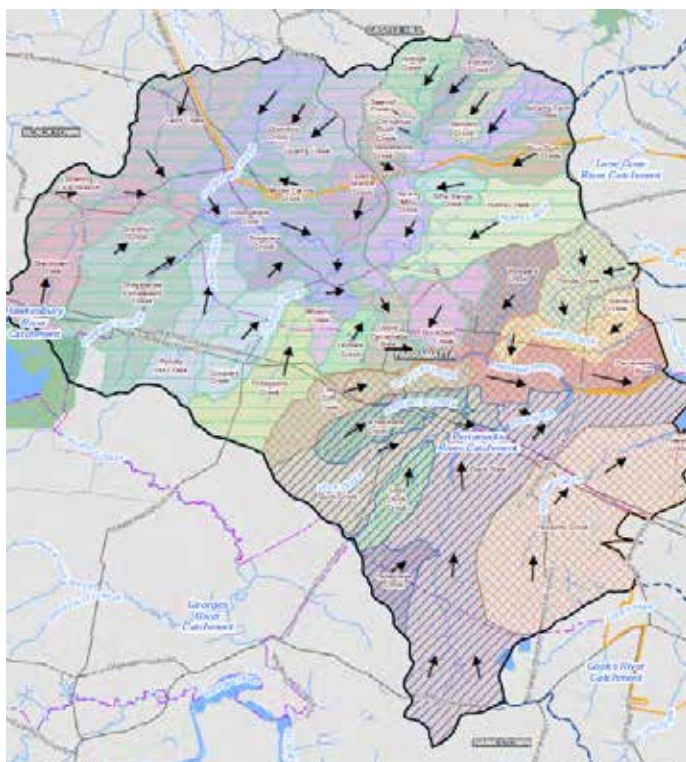


Figure 1 shows the project area, with creeks and tributaries flowing into the river.

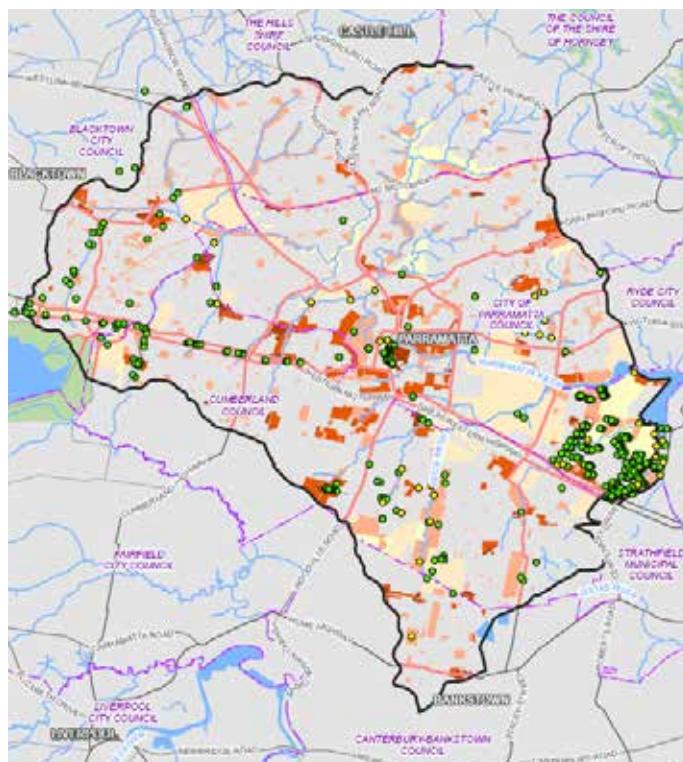


Figure 2: land uses and litter trapping assets in project area





## Amanda Bombaci, WSROC & Nicole Collas, Cumberland Council

- Data being held by council contractors
- Data held by other staff who were less than helpful
- Incomplete datasets due to amalgamation.

These key challenges resulted in significant delays in the project. As such, the most resource intensive part of the project was chasing up data.

Challenges aside, the project was able to bring together a wide variety of council and organisation owned datasets, with other accessible data, to present a picture of many influences to litter flowing into the river. Figure 1 below shows the relevant land uses in the study area, alongside locations of litter trapping assets.

All the data collected provided a basis for calculating the amount of litter flowing to the river in the project zone.

A modern urban stormwater management system captures approximately 90% of the total gross pollutants generated in a catchment area. To achieve this level of treatment efficiency extensive network coverage is required, which we did not have in the region. Instead we modelled what is in place.

To do we used the data we had obtained from councils and state government agencies and plugged it into MUSIC modelling software which is a stormwater modelling program. The modelling used local rainfall data, land use and land imperviousness data to calculate stormwater flows into the collective assets.

We were able to accurately assess the levels of litter in the gross pollutants captured by litter trapping assets by using litter compositional data. This

told us how much of the material captured was organics materials (such as sticks and leaves), silt, and litter. Image 1 below shows visible litter in gross pollutants destined for the Parramatta River.



As a result, it was calculated that somewhere between approximately 3,500,000 kgs of gross pollutants are entering the river system. The regions GPTs and other assets are removing approximately 60% of this content, leaving 1,500,000 kgs of gross pollutants entering the river. Of this, litter makes up 10-35% of gross pollutants, resulting in 144,600kgs to 506,100kgs of litter entering the river from the study area each year. This is the equivalent of 180-1120m3 of litter, with 21-23m3 coming from each council, depending on their litter trapping assets. Interesting, in 2016/17, Roads and Maritime Services removed approximately 100m3 of litter from the surface of the western reaches of the Parramatta River, with a significant amount of litter remaining

to flow downstream, onto river banks and out to the ocean.

Through this project, there were significant learnings for the group, including:

- So far, a lack of regional coordination to managing the catchment has resulted in insufficient upstream controls impacting downstream stakeholders
- There is great uncertainty in many organisations around roles and responsibilities for assets. Many agencies thought assets on their land were managed by councils.
- There is a lack of strategic prioritisation of litter in many agencies
- There is insufficient GPT coverage in many areas, particularly older areas constructed before new controls came into play.
- Many assets are maintained infrequently, which affects their ability to operate correctly.

Councils are not able to use this study to reassess how they manage waterways, litter trapping assets and roll out litter reduction programs. Future projects will take into greater account the role of adjacent land managers and the impact of litter trapping infrastructure and its correct use.

As a group, organisations are looking to continue to work together to identify responsibility for assets, share data, integrate litter management into infrastructure or stormwater plans, improve asset coverage and improve communications where there are shared responsibilities.

# SEABIN PROJECT'S "WHOLE SOLUTION" PROPOSAL FOR OCEAN CONSERVATION AND SUSTAINABILITY

## Dream to reality

From what started as a lateral thought of "if we have rubbish bins on land, why not have them in the water" an idea was born and became a reality with the seabins being deployed around the world to mitigate the risk of floating marine debris making its way into our oceans to become ocean plastics.

CEO & co founder Pete Ceglinski and the team have developed the seabin concept into a commercial technology efficient in maintaining cleaner waterways in upstream locations.

Emerging as a start up in 2014, seabin group has grown into a multinational operation with the commercial units hitting marinas around the world in may 2018.

Currently 237 seabin units are deployed in over 50 marinas within Europe, Middle East, South East Asia and the west coast of the USA. The average estimated amount of floating debris captured by the seabin units is 500 kilograms per day.

Ceglinski and his team recognised that technology would not save the oceans unless an emphasis on educational programs was implemented to stop the debris from getting into the waterways and so the whole solution strategy was created.

The whole solution strategy consists of approaching the ocean plastics dilemma from multiple angles.

- Education
- Technology
- Science
- Research
- Community
- Industry



As the emphasis on education as the real solution grew, seabin group developed a series of lessons based on interaction with seabin technology focusing on school children and local community groups with concern for the state of their waterways.

The science element stemmed from the need to have hard data, facts and to understand the impact the technology has whether it's a negative or a positive.

Seabin group have been implementing this whole solution strategy for 2 years now and we are now starting to see an unforeseen added benefit from these activities.

Communities are now becoming more and more aware of the ocean plastic situation and are now demanding practical and tangible solutions instead of passive solutions. This community demand is centralised on local government which in turn is putting pressure for local authorities to act.

Local communities have now taken their decisive actions further by crowdfunding for solutions to floating marine debris with schools, sports clubs, pensioner groups and children

campaigning to sponsor their local port, marina or yacht club with seabin technology.

## Seabin impacting waterways globally

As of 30th July 2018 there are over 237 seabins deployed in 14 countries with an average of a half ton of debris being removed every 24 hours. The debris that is being removed from waterways ranges from plastic bags, polystyrene, food wrappers, cigarette butts, micro plastics, water bottles and surface oils. Seabin groups research team have also successfully developed and trialled a new filter which will also extract micro fibers for the water.

These research projects and a comprehensive data collection program has proved integral in understanding the water quality in an upstream location and we now have the hard data to start to quantify how much marine debris can be found in locations in ranging conditions proving that each installed seabin is a potential scientific monitoring station that can be easily fitted with sensor monitoring technology.



Pete Ceglinski, Seabin Group

## Australia operations

Seabin group currently are aiming at landing a container of 100 seabin units into Australia in November 2018 with distribution set for early December 2018. Seabin's focus is on using Australia as a benchmark for the rest of the world in maintaining clean and healthy waterways. The deployment of seabins within Europe has been a success but with small pockets of resistance from some countries with a "not my mess, not my problem" attitude prevalent in some waterfront regions.

The seabin technology is fast becoming a key stakeholder in this seemingly new market. The conscious decision to not start in open ocean but to start upstream in ports, marinas and yacht clubs with staff, maintenance have been beneficial in the growing success of seabin group who maintains a "work smarter, not harder" mantra.

## Government trials

Government trials of seabin technology are also underway in 3 locations around the world

- City of Paris has deployed 7 seabin units in an effort to clean up and maintain the river seine for the upcoming 2024 summer Olympics
- City of Dubai have purchased 6 seabin units to be trialled before committing to a further 30 units that will be deployed in series around the cities waterfront which should see a major difference in the volume of floating debris currently found in Dubai's waterways.
- An undisclosed major Australian city is halfway through a 4 week trial with one seabin unit installed on CBD connected shoreline.

The seabin unit has collected over 300 cubic liters of floating plastics and debris so far and the authorities are looking at installing seabin units over 15 hectares of waterfront pending a successful outcome of the trial with the focus of "smart cities, smart solutions"

Although seabin group are progressively making their mark on the European markets, emphasis on a market presence now within Australia is also a major focus. The seabin group HQ will be set up in northern NSW and all IP and new technologies are to be developed within Australia with dollar matching opportunities from the Australian government adding to the incentive.

## Next steps

### Seabin plastics

As the number of active seabins is growing each month, the need for a solution to keep the plastics from re-entering the waterways is becoming more and more of a priority.

Seabin group has initiated the first steps in exploring the circular economy for plastics concept and has started discussion with various waste services providers globally on how to tackle this subject effectively.

Seabin group are also in discussion with service providers to reuse up cycled plastics in the manufacturing of seabin components.

Recycled fishing nets have proved to have the most potential so far in testing.

### Fixed dock seabins

The current seabin model is designed for floating docks only to accommodate for the rise and fall of

the tide. 2019 will see seabin group develop and commercialise a "fixed dock" seabin which will be able to be installed on hard edge waterfronts like Darling Harbour, Circular Quay, Opera House, canals of Amsterdam and Venice.

It is predicted that the market opportunity to the fixed dock market is 4-5 times larger than the floating dock market.

## New technologies

The aim for seabin group is to have the lowest carbon footprint possible for the seabin units. Currently the water pump that runs the seabins is 500 watts and costs around \$2 per day to run. The low energy consumption means that renewable energy options could be used to power the seabins. Think solar, wind and wave power.

## Smart technology

Each seabin is a potential scientific monitoring station in an upstream location. In the age where data is king, the opportunity to have the seabins "smarter" is one of our near term goals to better understand the water quality of our waterways and the impact of the seabins operating in these upstream locations.

## Australian global HQ

Seabin group are underway with an investment round designed to scale up the Australian operations. The capital will be used to invest in new technologies, an office/warehouse space for prototyping and testing and to on board 6-9fte's by the start of 2019.

Positions range from marine scientists, mechanical engineers, content creators to marketing executives and legislation experts.

# SCORING THE NEED FOR A LITTER BIN – A DECISION TOOL FOR LOCAL GOVERNMENT

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Councils spend on average 90% of their litter budgets on infrastructure and disposal, which are often unrecoverable. Place managers must deal with improper use, inconsistency, over-saturation or mis-allocation of litter bins. Historically public spaces were overrun with litter bin infrastructure, a legacy that councils must manage in addition to a persistent litter problem from a growing and diversifying urban population. Furthermore, the dispersion of responsibilities and expenses, coupled with differing approaches to litter enforcement, can result in confused public education messaging and ineffective bin siting and selection.

Despite this, councils consistently face customer, shop owner and other outside requests for litter bins to be added. And litter management teams often are either over-resourced to service ineffective bins, or under-resourced to service high-use bins.

We needed a more holistic and place-based approach to servicing, access and amenity for managing this issue. SSROC's *Our Places: Recreation and Retail – a Litter Prevention Plan for Southern Sydney* acknowledges that councils that prioritise "litter governance" achieve better buy-in internally, with longer lasting results and invested staff. SSROC has defined litter governance as:

*Council recognition for coordinated regulatory, research and infrastructure approaches between units that result in more cost-effective ways to prevent and manage litter, and to enable positive community litter behaviours.*

With funding from the NSW EPA, SSROC and Jacobs Consulting worked with southern Sydney councils to establish a weighted scoring tool that supports councils to remove, replace, upgrade or repair existing litter bins and public recycling infrastructure.

The Tool was an evolutionary progression from WSROC and NSROC efforts in 2017 to develop litter bin guidelines. In NSROC, this included checklists for place managers in siting and securing the right bin in the right place. For WSROC, a litter bin fact sheet series for 12 different bin types covered design and maintenance pros and cons, and objective ratings and recommendations. The WSROC guidelines and fact sheets are available at <https://wsroc.com.au/media-a-resources/reports>

## Stakeholder Collaboration & Testing the Tool

SSROC used extensive consultation with its member councils to ensure the Tool would be beneficial, robust and easy to use. There were two planning workshops with a steering group of four councils, followed by an in-field testing workshop and formal evaluation of the Tool. We then opened testing up to all SSROC councils over five weeks. Each Tool iteration allowed for on-ground feedback from users.

SSROC thanks waste, outdoor, place and sustainability officers from Burwood, Canada Bay, Canterbury-Bankstown, Georges River and Inner West councils for their efforts across the workshops and testing period.

## Tool Design & Function

The Tool inputs on-ground and condition information against agreed evaluation criteria. A scoring summary is applied, providing documentation for councils when seeking approvals. Overall it ensures that data, bin site and bin design take a place-based approach, and the resulting recommendations 'make the decision', rather than empirical information, political pressure, or customer requests.

The Tool was designed for easy, in-field use from either mobile device or clipboard. The Tool accommodates a spectrum of contexts:

- *Full range of public place site types:* CBD/retail area, transport hub, bus stop, sports fields and courts, inland parks, riverside park/marina/fishing area, nature reserve, beach, special event area, council car park
- *13 bin infrastructure types:* 80L litter bins, mobile garbage bins, litter bin enclosures, solar compacting bins, underground bins, underground compactors, underground vacuum systems, charcoal bins, cigarette butt bins, fishing line bins, reverse vending machines, drive-through bins, dog bins with bags
- *Place-based factors,* such as: commercial and/or residential dumping, laneway and alley issues, marina and boat bay dumping, litter bin clearances from bus bay signage, bin hire arrangements at sports fields and events, location of barbecues in public parks, volunteer litter clean-ups, hazardous materials and proximity to environmentally sensitive areas.



David Kuhn, SSROC & Tanya Henley, Jacobs

## How it Works

Prior to using the Tool, Council will assign an importance weighting to a range of category criteria, expressed as a percentage for each category: 1) Cost-Effectiveness, 2) Amenity and 3) Health & Safety, totaling 100%. The in-field assessor will decide if a new or existing bin is being assessed, then he or she will answer 12 yes-no and simple scoring questions. Criteria have been evenly split so that there are four questions per category.

Some scoring will trigger prompts and comments in the Tool, which range from helpful advice to indications that there could be issues to address, or even an 'immediate fail.'

When the scores have been aggregated, the raw score will be multiplied by the criteria weightings as determined by Council, to give a final 'weighted score.' The weighted scores are totaled, and then compared to a threshold to determine a result. For an existing bin, results will recommend whether a bin should be removed, repaired, moved, upgraded or replaced. For a new bin, results will recommend whether a bin should be installed, with guidance about what type of bin would be suitable.

Once complete, the assessor can add comment, photos, customer request references or other supporting documentation to the report. The package can be directly archived internally, and easily transferred to council reports, memos and requests. This functionality reduces red tape and consolidates the required support needed.

Commendations to the NSW EPA for their emphasis on litter governance initiatives. For more information on the Decision Tool, contact David Kuhn at [ssroc@ssroc.nsw.gov.au](mailto:ssroc@ssroc.nsw.gov.au).

# SAVE THE DATE

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# EXTENDING THE IMPACT OF CLEAN UP

## Panellists:

- Kate Brown - Program Manager WasteAid Australia
- Brendon Andrei - Clean Cities Project Officer, Blacktown City Council

Let's Do It -Internationally and locally councils, community organisations and volunteers have provided great impetus for cleaning up litter and items that are dumped by other people. Year after year significant contributions of time, labour and resources to demonstrate a shared commitment to clean spaces and the social norm of 'doing the right thing' with used items.

Recent collaborations with NSW EPA and with leading local government authorities have reinforced the need to connect front-of-pipe approaches by finding effective approaches to activate and engage a broad range of stakeholders to reduce the load on clean up activities.

Community demand for clean spaces plus the popularity and number of clean up events has led to a growing recognition of the need for collaboration so that successful outcomes increasingly linked to ongoing and strategic approaches to prevention.

To change the behaviour of litterers and dumpers a systematic approach to coordinate the factors influencing community disposal actions is required. Indeed organisations like the Let's Do It - WCD are actively engaging specialists to ensure the worlds largest community social action does more than simply create awareness or provide a clean tableau for polluters to spoil.

Australia has an outstanding record and has led the world in clean up activities and behaviour change initiatives. Organisations and individuals across the country have years of experience and are continually trying new approaches to integrate front-of-pipe approaches and source. Indeed international organisations like Ocean Conservancy and Keep

New Zealand Beautiful have years of experience in engaging community in clean up activities.

I sought assistance from my colleagues about how to contribute to the LDI movement given the well developed and extensive network of clean up activities here.

I contacted Paul Cusack of Brisbane City Council because I know Brisbane has built on its record of achieving the lowest level of littering behaviour in a CBD by taking a systematic approach to engaging the community in helping to keep the city clean.

Over a decade of targeted behaviour change work has supported appropriate disposal actions through the installation of accessible, predictably positioned and consistent BIN infrastructure and combined with promotion, education and strategic use of enforcement to reach out to broader groups of stakeholders.

In recent years the approach to stakeholder engagement has moved on to integrating behaviour change insights with clean up activities based primarily on the understanding that the vast majority of community members who want to live in clean spaces.

The Brisbane approach is about facilitating a social norm that says its part of everyday life to pick up rubbish as you pass. On outreach strategy is used to build engagement using social networking theory and incorporates reinforcement of appropriate social norms based around prevention and participation. From encouraging politicians to be visible to pick up litter in front of peers and to say nothing to draw attention so that the actions is just part of walking around town. Or having kids involved in fun activities (like collecting items of a particular

colour) to strategically stopping their involvement while they are having fun before they get exhausted so that they are keen to continue under their own steam.

The approach is fun, transparent and open to all. It demonstrates to people to 'do as we do' from Council leadership through to community role models showing their super powers for clean. They actively meet groups where they live, lend them a kit and have those contacts act as change agents for their peer groups.

Everyone can join a healthy movement that operates all year and is more than one big event.

Today we have a panel of local experts involved in clean up activities in a discussion of practical approaches to extending the impact of those events and ongoing activities.

## Kate Brown, Waste Aid



Waste Aid works with Aboriginal communities to achieve positive waste disposal behaviour through co-designing solutions to enable communities to care for their County. =

The Aboriginal community is at the core of our approach and together we co-designing waste clean-ups, infrastructure and education whilst ensuing we build capacity within communities. To achieve sustainable, positive changes, communities must have access to appropriate services infrastructure to be able to live in clean



## Rob Curnow, Community Change

spaces. A constant finding in litter and community development research is that a clean public space is likely to remain clean and is a descriptive social norm, signalling a safe community space.

Cleaning up alone is not enough. Co-designed community amenity infrastructure is an important element in WasteAid projects as is the celebration of a successful community clean up activities.

To date, we have co-designed Waste to Art gardens, children's play equipment and public tables and chairs in community parks. These activities alongside co-designed waste education signage, which have remained graffiti free when all other signs have been vandalised, have seen the areas remain clean with evaluation reports describing an increase in happiness and community satisfaction and safety.

### **Brendon Andrei, Clean Cities Project Officer, Blacktown City Council**

97% of the funds western Sydney councils allocate to litter management are spent on cleaning up littered items from shopping precincts, parks, roads and waterways. Whilst clean ups are a critical step, it's a band aid solution that does not solve the underlying problems. To achieve long term litter reduction, we must use a holistic approach and allocate resources to education, enforcement and community involvement.

This approach is ingrained in our Clean Cities Strategy. The Clean Cities Strategy 2015 - 2020 is our plan for improving the cleanliness of Blacktown City and increasing community pride. The strategy goes beyond

just cleaning and provides a whole of precinct approach. This includes assessing and addressing litter, illegal dumping, graffiti, maintenance issues and vandalism.

All of our litter prevention projects run over the last 4 years have used a combination of infrastructure upgrades, engagement, enforcement, obtaining baseline data, reporting and clean ups. From this, we are seeing sustained changes in litter behaviour especially in our CBD's.

Our projects and interventions have evolved in recent times, in response to our leanings, new insights and local trends. We have recently reassessed our priorities and are currently focusing on:

1) Encouraging the community to do their part - Our new programs remind the community and businesses that they too are responsible for keeping Blacktown City clean #cleancity. Our messaging encourages residents and businesses to take ownership of their space including the nature strip.

2) Challenging people's belief that by littering I am keeping someone in a job. We are currently addressing this

through a staff led 'Picking up litter is not my job' campaign promoted on Council's Facebook page and in local newspapers. I'm committed to a #cleancity are you?

By having sustained programs which constantly adapt and have a holistic approach, we have a great chance of long-term impact and sustained behaviour change.

Based on Paul's advice and the experience above we have settled on a satellite approach to supporting LDI where we want to inspire small pockets to invite LDI to walk alongside them as they do the activities they chose to mark this day. We have a group of people who describe themselves as having an easy fit with the mature clean approaches in Australia.

The intention is to promote the world wide celebration and if particular groups are involved in a regular clean up activity on that day or can relate to the LDI movement. The Australian LDI team will seek to work alongside people with the same motivation to moving toward the same end the and recognising that no-one approach in isolation would be sufficient to negate the need for clean ups.

WORLD CLEANUP DAY 2018

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Want to help the global movement?

- What can we do after World Cleanup Day?
- How can we ensure that we keep the planet clean?
- What should be done with litter once collected?
- What are the next most important steps?
- How do we move towards our goal: minimising the leakage of resources from circular economy models?

The plan. What and why?

# UNDERSTANDING AND UTILISING THE KAB NATIONAL LITTER INDEX

The complexities that underscore litter in the environment and how it gets there has been a global challenge for decades. Litter is arguably a community indicator as black spots are often associated with graffiti and poor environmental care leading to concerns about safety and community capacity building opportunities.

Litter is unsightly and increasingly more difficult to address albeit Australia is a world leader in context of litter reduction strategies, policy, enforcement and community education and campaign engagement.

Understanding and utilising litter data embraces a plethora of issues including (but not all) changing design and application of packaging, litter disposal infrastructure, weather (rain, wind, fire), clean up and servicing of black spots, enforcement (Dob in a Litterer), location and item type where litter is ultimately disposed.

The obvious exclusion from the list above are people, the real littering perpetrator ie: people and their respective littering behaviour and habits.

Whilst protagonists may point the finger at specific types of litter (plastic, butts, take away etc) or the consumer source such as well-known convenience food stores and supermarkets etc, the ultimate act of littering is caused by individuals mostly knowingly, but sometimes accidentally.

Litter is costly to clean up, causes environmental harm both aesthetically and physically and as the global population expands and consumerism explodes the impacts of litter increasingly reaching alarming rates

Litter is not some people's priority and collectively we are not keeping up with the need to improve our overall waste and litter management practices as consumerism and packaging take over our lives.

The Keep Australia Beautiful National Litter Index is Australia's only trend line data base that tracks litter types, locations and changing consumer behaviour combined with purchasing habits. The NLI methodology was developed by KESAB environmental

solutions over 4 decades ago in response to tracking Container Deposit Legislation in South Australia implemented in 1977.

The KESAB Litter Index quickly established itself as the benchmark showing the actual landscape of litter in the environment and providing insight to assist with development of targeted campaigns, messaging, education resources and community engagement.

Keep Australia Beautiful adopted the methodology and in 2018 over 980 sites throughout Australia are counted twice each year in all State and Territory jurisdictions (May and November). Sites represent a cross section of typical urban and country locations including;

- Industrial
- Highways
- Beaches
- Residential
- Parks
- Shopping centres
- Car parks.

NLI items counted embrace a basket of items within glass, paper/cardboard, metals, plastics and miscellaneous categories including reporting on incidents of illegal dumping and sometimes estimating cigarette butts due to high number in the litter stream (40% of all litter).

Litter is counted by item and a volumetric equation is also applied.

Over time the NLI has undergone regular reviews including site evaluation due to size and development causing urban sprawl, change of land use (highways), increase of container deposit value







## John Phillips, KESAB & Tom Hannon-Tan, McGregor Tan

from 5c to 10c, expanding range of beverage containers regulated under respective legislation and monitoring plastic shopping bag bans.

Behind the scenes NLI trend line data assists policy makers and regulators to determine options to engage and facilitate community change and improve behaviour.

NLI also identifies litter by brand and whilst this aspect is not reported in the annual KAB National Litter Index Consolidated Report the information provides valuable insight and opportunity for Keep Australia Beautiful, KESAB environmental solutions and jurisdictions to implement trials including messaging and infrastructure installation.

Other impacts falling out of NLI data are identifying impacts of illegal dumping, remnant vegetation pollution and opportunities to improve habitat protection. An extreme example is the current impact of plastics in the marine environment which is piling up in our oceans and increasingly responsible for killing birds, mammals and fish. And a secondary but equally concerning issue evolving is the food chain being impacted by micro beds ingested by fish.

KAB NLI objectives seek to;

- Provide consistent longitudinal trend data
- Through analysis ensure greater understanding of what is being littered, where, who and type of litter in the environment
- Influence policy settings through fact based data supporting mitigation and mandatory options
- Provides and observation of the changing dynamics and impacts

of “new” packaging entering the litter stream and polluting the environment

- Monitors container deposits scheme and beverage containers diverted to resource recovery and embraces monitoring plastic shopping bag ban impacts
- Identifies options to implement targeted behavioural change education and awareness (NOT one size fits all)

NLI Data also contributes to influencing trails and undertaking additional specific initiatives to reduce litter and change behaviour.

These include;

- “Looking at Litter” commissioned by CCA to raise awareness about litter impacts
- “Trashing our National Highway Litter Impact” reporting on over 18 000kms of regional highway litter across Australia
- Container Deposit and Shopping Bag Ban Litter Stream Comparison (annual)
- “City Litter” Case Study of CBD infrastructure and litter messaging
- “Please Bin Your Butts” National butt reduction initiative
- “Healthy Waterways’ Qld coastal waterways litter analysis
- “Litter Kills” beach and ocean litter run off Onkaparinga Southport region
- “Litter Analysis on Remote Aboriginal Communities” APY Lands South Australia
- “CDS NSW” beverage container litter reduction (current)

The KAB NLI demonstrates leadership by Australia and has potential to build community capacity through

volunteerism and community effort. Road Watch, Adopt a Road, Stationeers and Tidy Towns are clear examples wherein communities identify a clean community with a happy and healthy community. Well being is a major factor in community perception and local drive to keep parks and beaches clean.

This capacity is transportable and Australia can utilise NLI data to engage our close neighbours to improve the environment and reduce their litter footprint.

Volunteers also value add in real terms through small grants programs quickly converting a \$20k grant into much more with thousands of hours of personal contribution in their community, improved environment and a cost savings reducing clean up costs and increasing resource recovery outcomes.

The NLI is a significant analysis tool demonstrating that by utilising data in a proactive manner litter type can be more defined enabling the litterer to be targeted, ultimately paying the penalty for being lazy and polluting the environment. This outcome is supported by the tens of thousands of community reporters across Australia dobbing in over 100 000 litterers in recent years (50% cigarette butts).

Combined with KAB, and other NGO’s and all levels of government organisations, revitalised campaigns and education feed off the National Litter Index which continues to play a leading role to influence litter reduction.

We are currently winning a few battles but there is a long way to go before we win the war.

# DIGITISING YOUR LITTER DATA – THE LOCAL LITTER CHECK IS GOING ONLINE

The NSW Environment Protection Authority (EPA) has developed an online asset, the Local Litter Check, to assist NSW communities to tackle litter in their local neighbourhoods. Adapting the current paper-based version of the Local Litter Check, the new internet-based version allows for the easy entry, compilation and access to data to plan litter prevention action in litter hot spots. The web-enabled version is expected to transform the way the tool is used and the data is shared.

## 1. What is the Local Litter Check?

The Local Litter Check was developed by the NSW Office of Environment and Heritage (OEH) in 2012, drawing on research and expertise in the field of litter prevention. It has been used extensively since then by community groups and councils. It is intended as a citizen science tool for people who want to do something about litter in their local areas. It provides a guided approach to assessing a litter hotspot, focusing on factors known to influence litter such as:

- cleanliness
- infrastructure (eg. bins, signage)
- education and awareness
- enforcement of litter laws and regulations, and
- the sense of involvement or 'ownership' felt by users of a location.

The Local Litter Check takes you through a three-stage process of assessment in a location:

- a. **Location inspection** in which you record your direct observations of a location.

- b. **Litter count** in which you select a 48 square metre area within the location, to count and categorise all the litter in that area.
- c. **Location user surveys** in which you conduct brief surveys of users of the site to understand their perceptions of the location, and to check your own assumptions about what is going on there.

The essential idea of the Local Litter Check is that this three-step assessment should be conducted both at a littered site (a 'hot spot') and a site with similar uses but which is less littered (a 'clean site'). An example would be two parks, each with a playground, one that is littered and the other not. You then compare characteristics of the two sites, using a results summary form that brings together the data from both sites. This allows you to consider both what is going wrong at the hot spot that seems to cause litter, and what is working well at the clean location to prevent litter.

The aim of the Local Litter Check is to get you to pause before 'leaping in' with solutions to a litter problem, and to think through the site context that may influence litter - based on the dot points above. Experience has shown that assessments such as the Local Litter Check tend to lead to more effective and sustained litter prevention. The Local Litter Check gets used in three essential ways:

- An **assessment tool**, as described above, that informs your thinking and provides evidence about what action can be done in a hot spot to prevent litter.
- A **communication tool** that helps to frame and present the evidence and persuade others to support the litter prevention action - through volunteering time or providing funds and resources.

- An **evaluation tool**, where you conduct an assessment of a hot spot after you have taken action to prevent litter and compare this to your original assessment of the site before you took the action (ie. the 'baseline').

The Local Litter Check has been used in these ways since 2013, principally as part of regional, council and community EPA litter grant programs funded through the NSW Government's *Waste Less Recycle More* initiative.

## 2. What is the current status of the Local Litter Check?

The Local Litter Check has wide usage and has proven effective in assessing and evaluating a large number of grant funded projects. More than 330 individual local litter checks are held on file by the EPA Litter Prevention Unit which have shown an average 66% reduction in litter at sites where council grant projects have been conducted.

But there are limitations to its effectiveness as paper forms. The Local Litter Checks held on file are in paper or pdf form, held in a number of locations with the EPA, local councils, regional waste groups and community groups. There may be an estimated 1,000 local litter checks that have been created since its inception in 2012. Some paper has been lost, others merged or summarised. There are inherent risks in the paper- and pdf-based system that can be summarised as follows:



John Lavarack, NSW EPA

### 3. Where we're going - what are we seeking to achieve with the online version of the Local Litter Check?

In 2017, the EPA committed to developing the online Local Litter Check. The objectives that were agreed for the new system were as follows:

- Easy digital uploading of the Local Litter Check database - allowing data to be entered once and then be available securely across the entire system.
- Improved citizen science and participation in data collection.
- A central repository to input and access Local Litter Check data.
- Enabled analysis of data at multiple sites and over time.
- Evidence built and outcomes tracked for ongoing development of litter prevention strategy and policy

Following a formal selection process the decision was made to build the site using the Salesforce Community Cloud platform. This platform provides an excellent 'look and feel', easy navigation, good functionality and responsiveness to user inputs. From April 2018, a dedicated web development team worked with the EPA Litter prevention unit to build the site which was completed in mid-July.

The brief stipulated that the online system adapt the paper forms of the Local Litter Check in digital form, to ensure continuity with the existing database. A key part of the brief was enabling instant feedback, with simple upload and download of reports for users and the capacity to share data easily. Also central to the brief was the centralised warehousing and securing of the data to enable

compiling, sharing and analysing of the information.

In developing the online system, the LPU found that it could do more than replicate the paper forms online - it could transform the process and the forms to take advantage of the digital space.

### 4. What are the key features of the new website?

The new website is expected to be available to use by no later than October 2018. The key features are as follows:

- Simple registration and login allows you to access the Local Litter Check from any networked device.
- Intuitive display format operates across a variety of devices - desktop, smartphone and tablet.
- Guidelines integrated in the website that can be hidden or shown as required.
- Inline guidance in the form of 'pop up' notes using the "i" (for "information") symbol for individual questions ensures consistent and complete data entry.
- Easy navigation between forms so that, for instance, if you are in the middle of conducting your location inspection and an opportunity arises to interview a location user you can instantly exit (and automatically save) that form and open a location user survey form.
- Simple navigation within forms, allows movement forward or backward one page, plus the capacity to exit and save at any time to come back later and complete it, if needed.

- Capacity to upload photos or electronic files on any page.
- Space to enter free text on any page - sample text is provided to suggest the scope of what can be written which you overwrite with your own notes.
- Geomapping that uses a Google platform.
- Location data entered in the location inspection form is automatically loaded into the remaining forms allowing simple mark up of your litter count site.
- All forms provide a summary page that gives feedback on the data you have entered, including colour coded tables to help identify higher scores in areas such as the litter count or location user surveys.
- Once you press the 'submit' data, all the information from your form will automatically load in a Results Summary form where you can compare the data from your site with any other site on the system - for instance a clean site with a hot spot, or your latest hot spot litter check with the baseline report from the same site.
- Edit functions for all the reports that provide flexibility with written notes and upload of photos and files.
- The capacity to invite others to participate in your Local Litter Check and assist you in collecting and assessing the information.
- The capacity to send reports online to anyone, using a url cut and pasted into an email or sms.
- Downloadable pdf reports of the litter count data to allow to share with others in hard copy or as a pdf attached to an email.
- User-friendly formats that allow you to print from screen, if needed.

# DIGITISING YOUR LITTER DATA – THE LOCAL LITTER CHECK IS GOING ONLINE

Continued

- Access for registered users to any record on the data base which can be searched according to project name, date created or user who created it.
- Dashboard readouts (currently available only at the 'back end' via the EPA) will allow flexible readouts of data across a wide range of variable, as required.

An important caveat to these features is that the Salesforce Community Cloud platform, while powerful, only works from networked devices. This means that collecting data will not be possible on devices in locations outside the 3G or 4G network or away from wifi hotspots. For this reason, paper location inspection, litter count and location user forms will remain available on the EPA website so that data can be collected and then later entered online.

## 5. What's next?

The site is built and ready to go live in November 2018. This means that future rounds of litter grants will use the online system. A help desk will be available. It will also be possible to enter data from already existing paper Local Litter Checks, assuming the completeness of the data in those forms.

Anyone interested to know more about the Local Litter Check can contact the EPA Litter Prevention Unit via the Litter Prevention mailbox at [litter.prevention@epa.nsw.gov.au](mailto:litter.prevention@epa.nsw.gov.au).



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# PICITUP MID NORTH COAST



Jem Hansen, 360green

One of the key objectives of the Midwaste 2016-2021 Regional Litter Plan is to increase community involvement in litter prevention and clean-up. In 2017, research was undertaken to try to determine current levels of community litter clean-up, the drivers and barriers for involvement, and how support for community clean-up could best be provided. This was followed by the implementation of the PICITUP Mid North Coast program, which is based on and shares branding with the successful PICITUP South Coast program with variations including Litter Kit contents and the method of collecting and acting upon data.

The PICITUP Mid North Coast program is designed to encourage and support individuals and community groups who do litter clean-ups, and capture local knowledge to prioritise targeted litter prevention interventions. Residents can now collect a PICITUP Litter Kit at all Council offices in the Midwaste region. Here's how it works:

1. Residents sign-up at participating Councils (or online) and collect a Litter Kit from Council
2. Residents collect litter using the Litter Kit on daily walks, on weekend family outings, at organised group clean-up days, or any other time
3. Residents fill in the data form in the PICITUP booklet to record information about their clean-ups, and use this to complete the quarterly MIDWASTE litter clean-up survey
4. MIDWASTE uses the survey data to help plan future litter reduction projects, and to quantify the extent of voluntary litter clean-up

Each Litter Kit consists of:

- Shoulder-bag
- 5 sacks
- 2 pair gloves
- Booklet incl data sheets
- Report litter cards

The program was launched in March 2018 and the first quarterly survey is currently being conducted. Preliminary survey data from respondents includes:

- 60% reported on solo clean-ups, 20% on clean-ups by families and 20% by groups
- 30% spend 1hr/month on dedicated clean-ups, 18% spend more than 4hr/month
- 17% pick up litter 'just while doing other things'
- 75% find PICITUP equipment 'quite helpful' or 'very helpful'
- 41% are using the PICITUP data sheets
- 92% are happy to do the data survey quarterly

The 2017 research provided some interesting data. Key findings included:

- A very high level of current activity in community voluntary clean-up, including many individuals but also a surprising number of group litter clean-up activities
- Significant potential for supporting both individuals and groups to increase litter clean-up, with very high levels of interest in free bags and gloves
- Groups involved in voluntary litter collection have diverse operations and needs, as they range from early learning centres to rotary groups as well as dedicated litter groups



- Reusable litter collection shoulder-bags trialled by participants were very well received

Recently an eager young resident of the region, Shalise, wrote in to say "I just wanted to say thanks for the picitup bags, I collected mine from the council and my dog Tutu and I used it for the first time today. There has been a lot of wind around the last month and I have been finding a lot of plastic bags in the tree branches. The bag was fantastic as it is light and fits easily on my shoulder and gave me a place to easily and securely store the rubbish until I got home after my walk."

MIDWASTE aims to continue growing the PICITUP program with a focus on supporting community litter champions and harnessing their local knowledge to identify opportunities for targeted litter prevention interventions.

# FIELD TRIALLING BINSRING TO CONTAIN WASTE IN MGBS

## The Problem - Involuntary Littering

Waste materials spilled from MGBs (wheelie bins) are a common source of litter. Waste can escape wheelie bins when the lid is blown open in blustery conditions and the problem is further exacerbated when the bin is toppled and the lid swings open to spill its contents.

This is "involuntary" littering and is particularly unfortunate given the bin's custodian has carefully sorted their waste and placed it in the appropriate bin for collection by their waste authority.



Voluntary littering



Involuntary littering

## A solution - BinSpring™

A few years ago, Perth builder, Phillip Sherrard identified this problem and developed a simple, elegant device to address the issue. Initially made of plastic, the BinSpring™ design has been improved to use recyclable stainless steel and support a 10 year warranty.

## Details of solution

BinSpring™ is a patented, double helix, high tensile, stainless steel spring that attaches to the wheelie bin handle and applies a steady downward pressure on the lid. Effectively, BinSpring™ keeps the lid closed, even if the bin topples over. Importantly, BinSpring™ does not inhibit the bin emptying process and always ensures the lid closes automatically as the waste collection vehicle reverts the bin and lowers it to the ground.

BinSpring™ is securely fitted in one second between the handle and lid and to date (August 2018) it fits every brand of wheelie bin available in Australia.

*Please note below: The recyclable plastic branding tag is no longer used as it had the potential to become litter.*



## Marketing the solution

The target markets for this product are clearly the major users and owners of wheelie bins. To date, the company has focussed its marketing primarily on local governments but with schools, mining companies and environmental groups also targeted. The product is being sold in all states of Australia and overseas.

LGAs rarely make rapid decisions and despite significant support for the product, wholesale sales to such authorities are relatively small compared to online retail sales in Australia and overseas. To address this, BinSpring™ personnel looked for a "circuit breaker" for decision makers.

## Field Evaluation - participants

In South Australia, two Local Government Authorities (LGA's) independently expressed a desire to carry out an extensive field evaluation of BinSpring.

The City of Onkaparinga and the Fleurieu Waste Management Authority (FRWA) partnered with BinSpring™ to design and implement a large scale in field evaluation. (FRWA is an authority formed by member councils of the Fleurieu Peninsula in South Australia in order to manage their waste and recycling. The member councils are: Alexandrina Council, City of Victor Harbor, Kangaroo Island Council and the District Council of Yankalilla.

Consultation between these two authorities resulted in an agreement to conduct a joint evaluation with significant scale and diversity of terrain. The Councils areas are adjacent to each other but spread over the expansive Fleurieu Peninsula and Kangaroo Island.



Greg Lomax, BinSpring

## Field Evaluation Objectives

### Reduce or eliminate stray litter, predominantly caused by open wheelie bin lids causing negative impacts on:

- Residents through litter entering streetscapes and private property
- Residents and the wider community through litter collecting in public open spaces
- Native wildlife through litter entering bushland, reserves, dunes and water systems
- Native birds through plastics being ingested
- Native marine life through water pollution and plastics being ingested

### Document any impact on collection services such as:

- Bin not emptying fully
- Extra time required to empty bin
- Time savings from not having to pick up stray rubbish
- Other efficiencies
- Bin lid damage reduction
- Drivers feedback

### Document any impact on residents eg.

- Use of the bin with BinSpring
- Impact of reduced stray rubbish entering property and streetscapes
- Impact of reduced rain entering bin
- General feedback

## Field Evaluation - specific locations

The nominated field evaluation locations were known to be regularly affected by litter from toppled or open lidded wheelie bins. Significantly, each location had a specific environmental

consideration with seascapes or other critical waterways in immediate proximity.

In Onkaparinga, the south west corner of Willunga was selected along with a section of The Esplanade at Seaford. Seaford sits atop a 10 metre cliff which overlooks a pristine beach.

FRWA elected to work in the small coastal town of Middleton which faces the exposed Encounter Bay.

Almost 400 bins were fitted with BinSprings across the three locations. Residents were informed in advanced and willingly participated in the project.

The rolling field evaluations took place in the last quarter of 2017 and first quarter of 2018 with each bin being collected six times. In the Onkaparinga Council areas, 240 Litre "recyclables" bins were fitted with springs while FRWA opted for 140 Litre "General Waste" bins. This variation in size and contents added more depth to the evaluation. In Middleton (FRWA), only those 140 Litre bins in regular use by permanent residents were fitted with springs. Unoccupied holiday or rental properties were excluded to ensure only "active" bins were included in the evaluation. Of course, some rental properties were occupied and this allowed for immediate comparison of emptying bins fitted with or without BinSpring. Drivers quickly noticed no difference despite some early doubts.

An observer was placed in each waste collection vehicle to witness and take notes for every collection. The observer oversaw almost 2,400 collections and was able to observe the various truck driver's operations and the emptying of each bin at close quarters. Any exceptions to an ideal emptying were noted and driver feedback was carefully monitored.

During this observational phase, much was learnt about the waste collection drivers' tasks and some very interesting information about how bin lids (in particular) get damaged. It was also discovered how the filling of the bins impacts the driver and how education of residents must be ongoing.

## Resident's survey

Once the field evaluation was completed after the six fortnightly waste collections in each location, a resident's survey was conducted. The feedback from the surveys in all three locations was overwhelmingly positive and the participation rate was around 25%.

## Summary

The field evaluation was an outstanding success with all stakeholders delighted with the outcome. The product performed exactly as designed and nearly 2,400 wheelie bins were emptied without issue. As designed, every bin closed automatically every time which prevents rains from entering the bin. Importantly, waste collection truck drivers were unimpeded in any way. Their work methods and round efficiencies were unaffected.

Environmentally, the streetscapes were noticeably free of litter from wheelie bins before and after collection. Residents responded very favourably in the survey.

## Obtain the full report

A full report of this Field Evaluation including the Residents Survey is available for downloading via [www.binspring.com](http://www.binspring.com)

# CIGARETTE BUTT LITTER REDUCTION BEHAVIOUR CHANGE TRIAL – WHAT WORKS IN CHANGING SMOKER’S DISPOSAL BEHAVIOUR?

In March-July 2018, the EPA in partnership with 16 councils implemented an innovative behaviour change trial to reduce cigarette butt litter. Each of the interventions trialled was based on EPA research observing and talking to smokers.

## Why tackle cigarette butt litter?

Cigarettes butts are consistently the most littered items, making up about 40% of all littered items in NSW. Butts are made of plastic, don't break down, and contain toxic chemicals that leach into the environment.

## Research and Background

This trial follows two leading research pieces into smoker disposal behaviour. The completed research explored the complexity of cigarette butt littering behaviour in NSW through social research including observations, focus groups and “in-the-moment” interviews to inform project design. The key findings of the research show that:

- Littering behaviour is strongly influenced by environmental and contextual factors.
- Smokers find it hard to find smoking areas
- litter rates reduce when pride and ownership increased
- There is little perception or likelihood of fines
- when consciousness increased, smokers found doing the right thing easy and got feedback of feeling good
- increased knowledge around impact of cigarette butt litter may be required to motivate proper disposal

- smokers need a goal or reason not to litter (currently it is too easy to continue littering)
- people think butts are inconsequential litter and don't know about toxic aspects
- smokers feel ostracized.

## Developing Intervention Strategies

The EPA worked with local councils and behaviour change experts at Monash University and the Behavioural Insights Unit of the Department of Premier and Cabinet to pull apart the research and design four key strategies. Each strategy was developed to test key research principles. This approach set out to understand what interventions change behaviour and why. The four strategies were:

1. **Pathways:** creating an environment to facilitate smokers locate a bin and dispose appropriately.  
  
Action: Placement of floor stencils directing smokers to the butt bin.
2. **Pride and Ownership:** creating an environment that smokers feel welcome and proud, and where they want to do the right thing  
  
Action: Ask smokers what they want in a smoking area; upgrade the site and add a smoking sign stencil to denote acceptance of smoking in the areas; ask smokers to reflect on what they like about the areas, and display these reflections on site.
3. **Positive Social Norming:** setting the right social norms and cues for smokers to do the right thing.

Action: Establish a goal to reduce cigarette butt littering on site. Erect a poster to promote the goal, and provide reasons why reducing cigarette butt litter is important. Hand out prompt cards to enlist support, and request smokers distribute cards to fellow smokers.

4. **Enforcement:** raising the risk of littering, through increased ranger presence and fines.

Action: Placement of floor stencils highlighting cigarette butt litter fines. Erect a poster promoting targeting of cigarette butt litter. Enforcement officers to engage in both soft (conversations) enforcement and issue fines for littering.

## Implementation

16 Councils participate in the trials delivering a total of 40 strategies:

1. Byron Shire
2. City of Canada Bay
3. Canterbury-Bankstown
4. Cumberland
5. Dubbo
6. Eurobodalla
7. Parramatta
8. Inner West
9. Ku-Ring-Gai
10. Port Stephens
11. Queanbeyan-Palerang
12. City of Ryde
13. Randwick
14. Waverley
15. Port Macquarie-Hastings / MIDWASTE
16. Central Coast



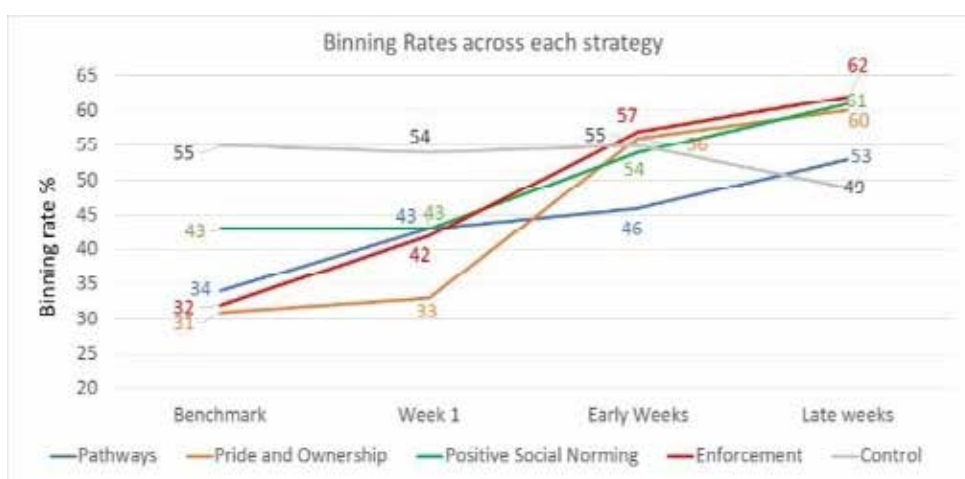


Rupert Saville, NSW EPA

Each council selected a smoking area in their LGA in which to deliver a strategy. Only one strategy was delivered per site, with councils selecting to deliver 1, 2, 3 or 4 strategies across different sites.

All sites required a butt bin to be installed before strategy implementation, and each site needed to be in a relatively clean state.

All strategies were standardised and delivered according to guidelines created by the NSW EPA.



## Evaluation

The EPA developed the Butt Litter Check tool to evaluate the impact of each strategy. The Butt Litter Check is a publicly available tool that helps to understand and track change cigarette butt littering behaviour at smoking sites. The four key steps are:

Step 1: Assess contextual factors at smoking areas

Step 2: Record observations of smoker's disposal behaviour

Step 3: Survey Smokers

Step 4: Undertake litter counts

The key evaluation metric used to track each strategy was the change in the observed disposal behaviour using Step 2. Over 5000 smoker disposal acts were recorded to track the impact of each intervention.

## Results

Across all sites the smoker binning rate increased from 35% at benchmark level to 59%. The change in binning rates when grouped by strategy, as outlined in table 1, show:

1. **Pathways:** 56% increase
2. **Pride and Ownership:** 94% increase
3. **Positive Social Norming:** 42% increase
4. **Enforcement:** 94% increase

Each strategy improved smoker's cigarette disposal behaviour, with Pride and Ownership and Enforcement strategies being standouts. At control sites binning rates reduced by 11%. Smoker surveys showed improvements in perceptions of site cleanliness and overall satisfaction with the strategies.

Smoker surveys across 20 of the trial sites, after strategies were completed, showed:

- 8/10 smokers noticed at least once change
- 9/10 smokers rated the changes as effective for encouraging correct disposal
- 8/10 smokers said interventions clearly indicate how to dispose of butts correctly.

## Looking ahead

The EPA will:

- Undertake a 3-month follow-up evaluation to test the sustainability of intervention outcomes at all trial sites
- Develop a program for managers of local spaces to tackle cigarette butt litter.
- Run a similar initiative at Universities and Hospitals in 2019.
- Explore opportunities to deliver a state-wide cigarette butt litter campaign coupled with on-ground interventions in 2020.

# NO BUTTS ABOUT IT

## Introduction

In mid 2017 Queanbeyan-Palerang Regional Council (QPRC) was approached by the NSW Environment Protection Authority (EPA) to work collaboratively in developing a program to reduce cigarette butt litter by trialing a range of strategies to determine how to effectively reduce butt littering behavior in the local area. After working extensively in trying to reduce litter in the local area and knowing the impacts cigarette butt littering has on the environment including waterways, QPRC decided to take part in the project.

Ultimately the trial outcomes will not only be used to help guide the EPA in designing a broader suite of strategies to implement across NSW, it has successfully opened lines of communication within Council and spread the litter message through extended collaboration with other groups. In addition to the NSW EPA, Council worked with students from the Australian National University (ANU), Queanbeyan's Riverside Plaza retail center and a local Aboriginal group.

## The Collaboration

Council wanted to be able to tackle all four strategies proposed by the EPA, however staff soon realised it wouldn't been possible if we didn't engage some outside help. Council staff attended the ANU Techlauncher night which enables students from any discipline to develop the research and professional skills required for using technology in the community and proposed carrying out the EPA trial to the students. This resulted in four students volunteering and, in turn, they would provide preliminary data analysis and recommendations

to Council as to which of the EPA strategies are most effective at reducing cigarette butt litter in the Queanbeyan region. Council would then use the results to inform the new waste strategy for the local government area.



Image 1: ANU students presenting their results at the Techlauncher showcase

In order to achieve the set goals set out by the NSW EPA, Council staff and ANU students soon realised the need to consult with various departments within Council. This included Council's parks department to bring the flower beds and smoking areas up to perfection before and during the strategies, Council's health team to find out regulations for putting in butt bins and Council's rangers to properly address the enforcement strategy. Additionally, staff discovered along the way that permission was needed to put stickers and decals down on walkways.

These collaborations were vital to the success of the project.

## Methodology and Recommendations

Over an 8 week period, Council Staff and ANU students completed many weeks of behavioral observations of local smokers in 4 separate locations as a means to address the four strategies proposed by the NSW EPA: Pathways, Pride and Ownership, Positive Social Norming, and Enforcement.

Seven weeks were spent on strategy 1, pathways which was located just outside a second entrance to Queanbeyan's major retail centre, the Riverside Plaza, eight weeks were spent on strategy 2, Pride and Ownership at the main entrance to Riverside Plaza, seven weeks were spent on strategy 3, Positive Social Norming at the Queanbeyan Tourist Information Centre; and 4 weeks were spent on strategy 4, Enforcement in the outdoor carpark of Riverside Plaza.

Along with the raw observational data collected by the ANU students and Council staff, the students provided additional deliverables which included a preliminary data analysis, cigarette butt recycling research report with recommendations for butt recycling initiatives, waterways research report with recommendations for implementation of strategies around Queanbeyan, and an Indigenous fire-pit design report outline recommended design specification for butt bins at the site.

Based on the data collected in Queanbeyan and the student's reports final reports, Enforcement and Positive Social Norming strategies were found to be the most effective methods to reduce cigarette butt litter in Queanbeyan. (48% and 28% reduction in cigarette butt respectively). Staff are however still waiting on the final report and suggestions from the NSW EPA.



Cameron Pensini,  
Queanbeyan-Palerang Regional Council

Beyond the ongoing visible message within the community, this project directly reached the local Aboriginal group, staff members within Council and students at the ANU. As a result of working with the students, the litter message was not only heard by them, but by other students in the program, their clients, and their lecturers as well as when they presented their project at the final Techlaucher night. The advisor of the team staff worked with also discussed the possibility of implementing some of the proposed strategies on campus. Additionally, the ANU students presented their project titled "QPRC Cigarette Butt Trial: Social Strategies to Decrease Littering" to a year 11 sociology class at a nearby College.

Along with learning about cigarette butt littering behaviour one of the highlights and most likely important aspect of the project was working with the local university students. The students brought new perspectives, skills, talent, and enthusiasm and people power to the project which allowed us to run all four strategies simultaneously and within budgeted resources. I would encourage all of you to look towards universities or schools when delivering your next project.

Table 1: NSW EPA strategy descriptions

Strategy	Description of strategy
<b>Strategy 1: Pathways</b>	Creating an environment that facilitates smokers binning their butts.
<b>Strategy 2: Pride and Ownership</b>	Creating an environment that smokers feel welcome, proud and want to do the right thing.
<b>Strategy 3: Positive Social Norming</b>	Creating a social norm that cues smokers to do the right thing, and reinforces positive behaviour.
<b>Strategy 4: Enforcement</b>	Raising the risk of littering, and providing a stronger incentive to smokers to bin their butts.

Table 2: NSW EPA strategy delivery timeframes

Strategy	Delivery time frame	Hours per week
<b>Strategy 1: Pathways</b>	7 weeks	2 hours
<b>Strategy 2: Pride and Ownership</b>	8 weeks	3 hours
<b>Strategy 3: Positive Social Norming</b>	7 weeks	3 hours
<b>Strategy 4: Enforcement</b>	5–7 weeks	4–5 hours

# BUTTS, BENCHES AND BIG OPPORTUNITIES

## Overview

There is anecdotal evidence that indicates providing a positive opportunity to recycle cigarette butts encourages smokers to 'do the right thing' to improve butt littering behaviour. In addition, providing an alternative disposal opportunity for cigarette butts in Australia has the potential to recover ~2,400 tonnes of plastic from the waste stream and keep it out of the environment.

The three major Australian tobacco companies, British American Tobacco Australia, Imperial Tobacco Australia, and Philip Morris Limited (the Tobacco Industry Product Stewardship Group) have been working collectively to identify effective solutions that to help reduce butt littering in Australia. In 2017, following a previously unsuccessful recycling trial, the industry funded a new project, led by Adaptation Environmental Support (Adaptation) to find a technical solution to recycle cigarette butts in Australia.

The exploratory project focussed on four initial areas to assess the feasibility to recycle cigarette butts:

1. Recycling technology - identify a recycling technology which can accept and effectively recycle cigarette butts



2. Collection formats - engage willing participants and trial collection formats
3. Product development - make good quality, fit for purpose products
4. Saleable products - find viable markets for products

## Project outcomes

### 1. Recycling technology

Discarded cigarette butts contain both plastic and non-plastic components which make it hard to recycle through standard plastic recycling technologies, without considerable pre-processing. A cigarette butt can contain ~32% residual paper, ash and tobacco from the original cigarette.

Adaptation partnered with Newtecpoly Pty Ltd, to trial the innovative new PolyWaste technology, via the Collins Mixer Melter. The technology is able to transform plastics into solid plastic planks which can then be used to make products such as furniture items, bollards, garden beds, bump stops and other manufactured plastic

products. etc. The technology accepts low-grade plastics, low-value plastic film and contaminated plastics, and can accept up to 20% contamination.

Three steps were undertaken to trial the technology for recycling cigarette butts:

#### Step 1: Laboratory testing

Laboratory testing was undertaken to understand how cigarettes performed within the Collins Mixer Melter. Samples of cigarette butts collected from St. Kilda Beach Patrol and Crown Casino ashtrays were mixed with plastic grain bags from the agricultural industry. Results showed:

- Ratios of 10%, 25% and 30% butts were successful at being processed through the machine; and,
- A mixture of 10% cigarette butts with 90% other plastics was found to be optimal to maintain integrity and the visual aesthetics of the end product, with nil odour (after airing) from the recycled butts.
- 





Lara Barclay & Victoria Arthur,  
Adaptation Environment Support

### Step 2: Leachate testing and odour neutralisation

It is recognised cigarette butts contain a number of chemicals which can leach when discarded into the environment. Leachate testing was conducted to check if the recycled composite plastic had the potential to leach toxins and to confirm the end product is fit for purpose. Testing was conducted on two samples. 1) butts collected from beach clean-ups which had low residual paper, tobacco and ash and relatively low contamination, and 2) from corporate ashtrays, which had higher residual paper tobacco and ash and other contaminants. Results showed leachate met Australian Drinking Water Guidelines and Australian Livestock Water guidelines respectively.

In addition, initial samples had an odour from the cigarette butts. Odour neutralisation options were considered, but it was found the odour of cigarette butts dissipated over time and no further odour neutralisation was necessary.

### Step 3: Full-scale plant trial

Given the early success of the project, a full-scale plant trial was undertaken to produce useable materials for product development. The trial successfully produced composite plastic products including planks and posts, suitable for manufacturing garden and furniture products.

## 2. Collection

Adaptation partnered with four stakeholders to trial different collection formats of cigarette butt samples for recycling, including:

- Two community groups (including St. Kilda Beach Patrol) were engaged to trial cigarette butts collected through litter clean-ups.

- One council (Brisbane City Council) collected cigarette butts from integrated ashtray next to garbage bins in the city centre
- One corporate (Crown Casino) collected cigarette butts from a range of different ashtrays styles in their entertainment complex.

## 3. Product development

Seven different prototype products have been successfully manufactured, including benches, seats, buddy benches, city barriers and bump stops, made from 10% cigarette butts and 90% other plastics.

## 4. Saleable products

The project partners have collectively purchased a range of products made from cigarette butts as part of this project. The products are of good quality and fit for purpose, diverting ~77,000 cigarette butts from the litter stream and landfill.

Products made as part of the project were manufactured at boutique pricing due to low volumes, therefore developing efficiencies of scale is an important next step.

## Other considerations

### Quality of cigarette butts as a feedstock for recycling

Cigarette butt audits were conducted to check suitability of cigarette butts as a feedstock for the recycling technology and to quantify the number of cigarette butts diverted from the litter stream and landfill. 27 kilograms of cigarette butts were audited, with a variance of the count of cigarette butts per kilogram of from 200 butts per kilogram in corporate ashtrays to 4,592 butts from litter clean-ups. This was the result of considerable variance in the amount of contamination and moisture content between samples.



The average contamination across all samples was 40% per kilogram, of which 32% was represented by the residual paper, tobacco, and ash. Both residual paper, tobacco and ash and other contamination was lower in litter clean-ups (~3% residual stick, and 19% other contamination), compared to ashtray samples (33% residual stick and 15% other contamination). Common contamination items included:

- Residual stick, tobacco and ash
- Organic material i.e. vegetation, rocks, twigs
- Cigarette packs
- Matches
- Gum
- Plastic stirrers and lids
- Paper towels
- Food wrappers
- Lemon rind
- Teabags

Moisture content also varied considerably across samples varied from dry to very wet.

It was discovered through this process the ideal feedstock for the technology is dry plastic. Any moisture will slow down the recycling process and contamination will reduce the volume of plastic input, affecting the quality of the product. The variation in quality found in the initial audit, led to further research to determine the

factors that influenced the quality of cigarette butts as feedstock for the recycling technology. Four factors were identified as impacting the quality of cigarette butts:

## 1. Collection format

Butts collected from litter clean-ups had a higher number of butts per kg and therefore a higher plastic content compared to butts collected from ashtrays. This was mainly due to higher percentage of residual stick, tobacco and ash in the samples recovered from ashtrays, whereas most of this had eroded into the environment in the butts collected via litter clean-ups.

It was also noted there was less moisture in butts collected in litter clean-ups compared to ashtrays. This is likely a result of littered butts being exposed to weather.

## 2. Ashtray design

Cigarette butts were collected from ashtrays at Brisbane City Council and Crown Casino. Whilst, the average number of cigarette butts per kilogram varied between ashtray styles, the amount of contamination and moisture content was the significant factor impacting butt sample quality.

The moisture content varied depending on ashtray location and style. Some styles had drainage holes to reduce water build-up reduced moisture content and producing a higher butt count per kilogram.

## 3. Integrated infrastructure

The level of contamination was found to be 6 times higher from standalone ashtrays not attached to waste bins, compared to fully integrated designs which include an ashtray with a waste bin.



## 4. Servicing

Ashtray servicing and cleaner procedures were also considered to be a factor affecting the quality of the samples. One of the samples only had 200 cigarette butts, with 83% contamination mainly from paper towels which were most likely placed in the sample after the ashtray was emptied.

Whilst ashtray design can impact the quality of cigarettes butts, it is important to engage cleaning contractors to follow procedures, and not input contamination into the system inadvertently.

## Summary and next steps

The project successfully identified a technology which can recycle cigarette butts locally in Australia. The project positively engaged four project partners to collect cigarette butts for recycling, and the recycling trial produced seven different product prototypes which were purchased by the project partners.

The next steps of the project are yet to be finalised, but early program success has identified opportunity to further explore three areas:



1. Commercialisation: to conduct a regional cigarette butt recycling trial to test recycling on a larger scale.
2. Research:
  - to further research ashtray design and styles to understand the best design to reduce litter and product the best quality feedstock for recycling
  - conduct quantitative research to confirm if recycling butts can reduce litter
  - further research pre-processing options to reduce contamination; and,
  - support research and development of new products.
3. Collaboration - consider opportunities to collaborate with other problematic plastic items to put through the recycling process, for example other problem litter items.

# LOOKING BEYOND 2020 – A QUESTION FOR ALL OF US – CAN WE ‘OWN IT AND ACT’?



Sharon Owens, NSW EPA

NSW litter data is showing significant falls in litter volume and littered items. From 2013-14 to 2017-18, the volume of litter has reduced by 37% and the number of littered items has reduced by 27%. We have almost reached the target set by the NSW Premier in 2015 - to reduce litter volume by 40% by 2020.

## How do we embed these reductions and lock in the positive impacts?

The EPA has developed an approach called ‘Own it and Act’ based on its assessment of where NSW is at and the gains that can be made going forward.

We are keen to get feedback on how effective this approach is for stakeholders and how the EPA can support NSW to own litter prevention and have the confidence to act to prevent it.



## Who needs to ‘own it and act’?

In thinking about this framework, the first question was who needs to own litter prevention. We came up with 3 groups:



Litter prevention programs in NSW have up to this point been focussed on the individual - the ‘me’. And we are changing behaviour. But organisations and networks are also necessary to institutionalise litter prevention. The work that councils, land managers, businesses, community groups, industry sectors do is a different but absolutely necessary part of the litter prevention framework.

## What are the enabling factors to help us all ‘own it and act’?

Leadership - we need a clear vision and an ambitious target. Leadership is the critical enabler that allows all other enablers to operate.



**Process.** This element is about knowing what to do. Organisations, networks and individuals all need to know the best things they can do to influence litter reduction, and they should have the confidence to take action.

**Commitment.** This element focusses on how to gain commitment from an organisation or network to take action. Commitment will come once a credible business case is made that answers the bottom line needs of the organisation or network. It might be budget, it might be reputation, it might be community complaints.

**Permission.** Each of us as individuals, or within an organisation or network, needs permission to take action. This can come through including litter prevention in a project plan, in a position description, in a budget.

## What happens next?

The EPA collected postcards from participants at the Congress on which each participant has written the first thing they will do to explore or take action on the ‘Own it and Act’ framework.

The EPA posted these back to participants in October as a reminder of what each person committed to doing.

The EPA is reviewing the postcards to identify how to support each part of NSW to embed litter prevention as part of ordinary practice, to lock in our litter wins and keep this going into the future.

# A FINELY TUNED REGIONAL APPROACH TO REDUCING CIGARETTE BUTT LITTER AT THE SOURCE

## The Opportunity

Cigarette butt litter is the most commonly littered item in all of Australia, and Western Sydney is no exception. Council officers from our eight participating councils (Blacktown, Cumberland, Fairfield, Hawkesbury, The Hills, Liverpool, Parramatta and Penrith) agreed that it was a common, yet challenging issue. Best practice methods informed the framework for how we would address butt littering behaviour as a regional project. However, with councils each having their own distinct communities and needs, education activities had to be tailored to address these needs for maximum effect.

## Following Best Practice

The NSW EPA's four pillars for litter prevention are well understood as facilitating best practice in preventing littering behaviour. Each of these four pillars (infrastructure, education, enforcement and evaluation) was considered in developing the project, and a suitable combination of activities were prepared allowing for variations councils could choose from to customise their program.

Being the first regional cigarette butt litter project, we targeted cigarette butt litter hotspots, which were outdoor shopping strips and malls in each council's Central Business District areas.

### Infrastructure

Two purpose-built cigarette butt litter bins (total of 16 bins) were installed in each council area as part of the project. Fourteen of these were freestanding cigarette butt litter bins, plus two cigarette butt litter attachments which were retrofitted to existing litter bins.

Joint procurement of infrastructure saved councils time and resulted



in competitive pricing, with free installation and 12 months of free servicing to the project bins. Some councils also took advantage of the regional rates to procure additional infrastructure.

### Education

The program leveraged off NSW EPA's successful and widely recognisable Hey Tosser education program to increase its saturation and effectiveness. Other educational components of the project were variable and could be curated by councils to appeal to their target audience.

These included a combination of static and dynamic educational methods, which councils could combine as below:

#### All Councils:

Infrastructure bin stickers (in Hey Tosser's recognisable 'blue'), Educational videos - 7 iterations to suit a range of purposes (social media, multi-lingual, promotion) and Media release.

#### On footpath Artwork:

Pavement decals (also in Hey Tosser blue) or Chalk art (selection of fish, bird or frog design) installation up to 4-6 month longevity. Council initiative: 'Smoking area' pavement outline.

#### Face-to-face Engagement:

3 street theatre performances (Litter Aussie Buttlers and The Butt-o-matic) or Conversations with multi-lingual (Arabic/English-speaking) educators.

Again, joint procurement of services proved beneficial, allowing councils to obtain maximum value for money (for example, we were able to engage two companies to perform different street theatre acts).

Councils also selected their preferred day and time for education activities to maximise engagement with the target audience. For example, one location featured a café that was busiest for breakfast/ coffee before work, and at lunch time; whereas another location was known as a popular meeting spot for locals in the middle of the day.

The presence of the static messages were visible to a high reach of people, and allowed the community to engage at a distance. The roving performances and educators, however, approached both smokers and non-smokers and engaged them in discussion about cigarette butt littering and acceptable disposable behaviours. The hashtags #BinYourButt and #KeepWSydClean were used across social media to promote the campaign and campaign messages.

### Enforcement

Enforcement of littering behaviour is among the least popular enforcement categories, with all but one council attempting it for the first time as part of this project. Whilst enforcement did not necessarily require a littering fine to be issued (although some were), visible enforcement actions by council rangers, or hired police, were required to reinforce the desired behaviours and education messages delivered throughout the campaign.

Councils made an upfront commitment to each contribute a minimum





Wendy Xing & Guada Lado, WSROC

of a day's (7 hours) equivalent in enforcement activities, at their project locations. An experienced ranger from outside the region delivered a training workshop to interested council rangers and officers. The training was meaningful in providing the support and tools for enforcement officers to deliver their enforcement commitment. The resulting 56.5 hours of enforcement activities across the region is a team effort to be commended, as well as the 23 litter fines issued.

**Evaluation**

The results of the education campaign was measured as shown in Table 1 below.

The results showed that the designated smoking area was an effective tool, and that standalone cigarette butt poles had a bigger impact than the retrofitted litter bin attachments.

**Challenges and Learnings**

There were many benefits of tackling this project jointly as a region, including centralised coordination, procurement benefits, shared experiences, and being supported as part of a team.

WSROC undertook a concerted effort in coordinating and delivering a regional project of this scale, however, it reduced the need for individual councils to replicate activities and with consistent messaging and wider distribution channels, increased the impact of the campaign.

Cigarette butts are sometimes valuable to the point that butt bins are vandalised or stolen to either obtain the contents, ensure that cigarette butts are left on the ground, or both. With this experience, once council declined the free installation offered and installed their freestanding bins to prevent further incidents in their area. Unfortunately, other councils experienced a bin being stolen, and one being knocked over, less than 24 hours from the installation date.

The regional approach to litter enforcement was positively received by council's enforcement officers, with one ranger commenting that in all his years' experience, it was his first time to tackle litter. We hope that the upskilling in this area will lead to integration of litter enforcement as part of regular activities, and will support council's future education efforts

around anti-littering behaviour. Being a part of a wider team that was enforcing the same message across the region was also valuable.

Each council provided a significant amount of in-kind support, which enabled the project to be delivered according to each community's needs. The regional approach, with centralised coordination and the support of each of the eight individual councils, was a success and would not have been achieved without the efforts of all involved.



**TABLE 1: Education Campaign Results**

Evaluation Tool	Result
NSW EPA Butt Litter Check (pre vs post campaign)	<p>8 out of 14 rated sites had all of the following 4 improvements:</p> <ul style="list-style-type: none"> <li>-Reduction in cigarette butt count.</li> <li>-Reduction in total litter count.</li> <li>-Improvement in positive disposals.</li> <li>-Smokers are more satisfied with the area.</li> </ul> <p>An average across the sites showed:</p> <ul style="list-style-type: none"> <li>-Reduction in cigarette butt count, by approximately 30 butts per 48m<sup>2</sup>.</li> <li>-Improvement in positive disposals, by 3 disposals per 45 mins observation duration.</li> <li>-Smokers are more satisfied with the area, with 20 percentage points more positive responses</li> </ul>
Qualitative data: conversations with smokers and non-smokers (during campaign)	During the campaign, the 3 Arabic/English speaking educators spoke to over 500 smokers, to a total of 96 hours.
Media reach	17 media releases reaching 590,157 people, 9 social media posts reaching 27,959 people - And counting!

# ALL EYES ON BLACKTOWN – REDUCING TAKEAWAY LITTER THROUGH ENFORCEMENT AND FAST FOOD OUTLET PARTNERSHIPS

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## What was the problem?

Like many areas, we had a visual litter problem along 13 main arterial roads leading into Blacktown City. We did not own or service most of these roads so we collaborated with NSW Roads and Maritime Services on this project. The main littered items along these roads were takeaway food packaging and drink containers. We wanted to engage with fast food outlets as their products formed a major component of the litter stream.

Our project was influenced by the behavioural research report 'Tackling Takeaway Litter', written by Community Change and the City of Canterbury Bankstown. We used the key findings of this report to guide many of our interventions. This included influencing people before leaving the drive thru and addressing the excuses fast food outlet customers use to justify their littering behaviour. The report provided us with factual data when meeting with fast food outlets to seek their participation in the project.

Prior to this project starting, our community surveys showed that people did not think there was any chance they would get caught or fined for littering. To address this, we sought to have a constant enforcement presence by employing a Litter Enforcement Officer. We hoped that once enough people were fined, word would get around and people would be less likely to litter.

## What did we do?

### Fast food outlet partnerships

We approached fast food outlets to encourage their involvement in the project. Four McDonald's restaurants and four KFC restaurants agreed to take part in a trial. We knew we needed to influence their customers prior to leaving the drive thru, so we installed three custom signs in every drive thru.

The messages read:

1. Customers, please place rubbish in the bins located in the car park
2. Report littering from vehicles.  
Search: Report to EPA
3. Littering is illegal. Fines apply.

We targeted McDonald's drive thru's by providing 2,500 car air fresheners, printed with 'Report littering from vehicles' messaging and had McDonald's staff hand these to customers at the cashier's windows. We also installed stickers on their bins and provided litter tongs to some outlets.

### Enforcement

We established an enforcement presence by employing a Litter Enforcement Officer for 6 months. They constantly targeted the major roads, fast food outlets and carparks. Three police commands also assisted us by taking part in joint litter enforcement operations with our Community Law Enforcement Officers.

### Infrastructure

We assessed bus stop bins along the roads and found that many were overflowing. To address this problem, we replaced 16 bins with larger capacity, bird and wind resistant bin enclosures, and installed five additional bins where none previously existed.

## Community education

We did a comprehensive education program, which included:

- placing variable message signs along the major roads displaying the number of fines issued to raise awareness of the likelihood of being fined
- promoting the 'Report to EPA' website via social media, Council bulletins and on 17 tie up banners next to major intersections
- installing 77 permanent 'Report a tosser' and 'Hey tosser' roadside signs along streets adjoining fast food outlets and at litter hotspots
- letterbox dropping 7,000 households with 'Report a tosser' postcards to encourage public reporting
- placing anti-littering signs on 50 public place bins
- an intensive Facebook campaign. Our 15 boosted posts contained messages including enforcement, public reporting, effects on the environment, picking up litter and putting litter in the bin.

To engage with the hard to reach target audience 16-30 year olds, we:

- conducted litter awareness workshops at four high schools. Students were educated on the impacts of littering and developed a school litter prevention strategy
- hosted a free movie night at a Drive-In cinema. Before the feature film 'The Fate of the Furious', we played the documentary 'Plastic Oceans' which highlighted the devastating effects of plastic on Australia's marine life and links to human health.



Brendon Andrei, Blacktown City Council

### What did we achieve?

- 82% reduction in the volume of litter across the project area
- 267 littering fines issued by the Litter Enforcement Officer, and an additional 358 littering fines issued by Council authorised officers during the grant period
- 132% increase in waste captured by combined upgraded and new bin installations
- 110% increase in 'Report to EPA' registrations by Blacktown City residents
- Our litter awareness Facebook campaign reached 492,487 people and attracted a combined 9,179 reactions, comments and shares
- 400 people attended our drive in movie event and 98% of attendees rated litter as an important environmental issue after watching the Plastic Oceans documentary.

We thank the NSW Environment Protection Authority for funding this project through a Council Litter Prevention grant.



# CANADA BAY'S WAR ON DOG POO: BAG IT BIN IT

## Introduction

The "Bag it, Bin it!" campaign is an ongoing litter campaign aimed at reducing dog poo in the suburb of Rhodes along the Parramatta River. The campaign has been successful in engaging the dog-owners community and reducing dog poo through continuous on-site campaigning and presence and by using cheeky and highly visual collateral such as the sad poo emoji flags and bright pavement stickers.

## Why a dog poo campaign in Rhodes?

In 2016 Canada Bay Council adopted a litter strategy to reduce litter in hotspots by 50% in 5 years. The Litter Strategy has an implementation plan consisting of 89 actions. These actions were identified through analysis of data collected in community surveys, local litter checks and internal consultation. Even though dog poo accounted for only 1% in the average composition of litter found at our audit sites, it's an item of litter that gets regular complaints because of the

impact it can have on people enjoying the open spaces. Therefore a dog poo campaign was identified as 1 of the 89 actions in implementing Canada Bay's Litter Strategy.

Most dog poo complaints come from people living in Rhodes. Rhodes is a recently developed suburb characterized by high rise apartments living and a multicultural community. Rhodes is a small suburb measuring just 1 km<sup>2</sup> and with 12,000 residents it's densely populated. There are also more than 1500 registered dogs in Rhodes. A baseline audit in the 7 major parks earlier this year confirmed Rhodes as a dog poo hotspot. Top of the ranks was a small park called Phoenix Park Lower with 75 droppings counted. It was decided that Rhodes would be first on the list for a dog poo campaign.

## What did we try to achieve?

The bag it, Bin it campaign is part of the overall implementation plan of our Litter Strategy which aims to reduce litter by 50% in hotspots in 5 years. The bag it bin it campaign itself has a zero target.

The objectives of this project are to;

- Cultivate a sense of community pride amongst dog owners;
- Educate and engage with dog owners and walkers on the issue, the correct behaviour and consequences of non-compliance;
- Undertake regular enforcement;
- Upgrade infrastructure to support behaviour change; and
- Measure change through regular audits.

The objectives were determined in line with the 4 pillars integrated approach (education, infrastructure, enforcement and measuring) to litter reduction. As Rhodes is a relatively young suburb with a transient community, a lack of social cohesion is contributing to the dog poo issue. Therefore the bag it, bin it campaign specifically aims to foster a sense of community pride.

## What did we do?

The general look and feel of the Bag it, Bin it campaign ties back to our Litter Strategy but as it's specifically targeted at dog poo, elements have been changed to suit that purpose. Emoji's were introduced for quick visual recognition and to overcome language barriers. Much of the campaign material was also translated in Mandarin and Korean. The campaign is highly visual. The emphasis on graphics rather than text and the use of bright colours demands people's attention.

The campaign's main character is Patch, a dog mascot named by the public through a Facebook poll. Patch is supported by happy or sad poo emoji's showcasing the right and wrong behaviour and bringing in an element of fun.





Anne Claire Collee, City of Canada Bay



Elements of the campaign include: new doggy bag dispenser infrastructure across the peninsula, two weekly audits in dog poo hotspots to measure progress, marking of dog poos using poo emoji flags and spray paint, on site display of audit results, glow in the dark pavement stickers, display of multilingual campaign posters in the elevators of apartment buildings, one on one engagement with dog owners during patrols and audits, and a series of portraits of local dogs and their owners in the Rhodes digital newsletter.

The campaign was launched at a doggy day out community event. This event took place at Phoenix Park Lower which was identified at the top dog poo hotspot during our baseline audit. The event was a first in its kind for Rhodes and attracted more than 300 local and regional dog owners and enthusiasts. Beside a number of dog related performances, people who



pledged to be #PawesomePetOwners could have their portrait taken with their furry friend. The photos were linked real-time to the digital gallery in the nearby Rhodes Connection Community Centre to attract more visitors. Attendees were also engaged by roving performers talking about the issue of dog poo and the results of the baseline audit were displayed across the event space. Dog owners were able to meet and connect in the chill out lounge and children were entertained by doggy story time and colouring-in campaign posters.

A professional photographer documented the event. His photos together with the main campaign messages were made into a temporary artwork which is displayed at Phoenix Park as a thank you to the dog-owners community for the achieved results.

### Who was involved?

A cross departmental project team was formed with members of Sustainability Projects, Place Management and Media and Communications. Together they designed the Bag it, Bin it



campaign in which Sustainability is responsible for identifying and implementing dog litter actions, place management for engaging local stakeholders and event management and Communications for campaign messaging and campaign promotion. Other departments involved include Parks and Gardens for cleansing and mowing, Building and streetscapes for installing new infrastructure and Law Enforcement for patrols.

Outside council we have worked with Rhodes' building managers around Phoenix Park to display our campaign posters in the elevators of their buildings. We are now looking into engaging building managers in other areas in Rhodes and partnering with the Rhodes Multicultural Association to use their weekly English classes as a platform for litter and waste education including dog poo.



### What did we achieve?

The two weekly poo audits at 4 of the parks in central Rhodes are the main instrument to measure our progress. Two parks have seen significant changes in dog poos counted with a reduction of 49.5%. The two other parks have seen little change in dog poo counted with one being a cause for concern as the numbers are high in relation to the size of the space and its close proximity to a playground.

We have directly spoken to 325 dog owners about the issue of dog poo at the Doggy Day Out and during patrols and audits. A surprising number of people came up to us for a chat while we were out doing the audits. General feedback was very positive.

In addition to direct engagement, 50 glow-in-the-dark pavement stickers have been installed as well as 11 new doggy bag dispensers with campaign messaging and 6 A1 coreflutes displaying audit results across the 4 parks. 13 spray cans have been used to mark poos and on 8 occasions sad poo emoji flags planted next to dog poos have been out overnight to highlight the poo issue. The flags proved very popular as residents requested them via Facebook and some would disappear during each audit.

In terms of media reach 7 articles dedicated to the campaign were published in the Rhodes digital newsletter (1482 subscribers), 1 article in the Rhodes printed magazine (9000) 1 article in the Inner West Courier (80,000), 1 article in the Bayside Brief (39,000) and a total of 8 Facebook posts generated 1368 clicks/actions and reached 19500 people.

An unexpected result of the campaign is that in some areas marked dog poops are being cleaned up by dog owners/residents.



### What did we learn?

Though the campaign got a lot of traction with the Rhodes' community and considerable reductions were achieved in two of Rhodes' main parks, there is still a lot of work to do.

Rhodes has two off leash dog areas located quite a way away from where most dog owners live and walk. As a result people let their dogs off lead in parks where they are not supposed to and don't take notice of or ignore their dog pooping. Enforcement has been relatively low in the past which has allowed this behaviour to become a habit.

Other offenders are dog owners who don't want to clean up after their dogs. They often come out late at night and stay close to their apartment even letting their dogs do their business right next to the entrance to their apartment complex.

We have started to address some of these issues by patrolling the area more regularly and introducing glow in

the dark signage. Patrolling indirectly targets the dog poo issue through increased on leash compliance. Catching dog poo offenders in the act has proven nearly impossible because it mostly happens when it's dark.

To gain further reductions of dog poo in Rhodes we will need to

- Evaluate the current off-leash areas and consider a fenced, more central dog exercise area;
- Do regular patrols over a prolonged time;
- Engage all building managers to promote our campaign and resolve poo issues on their land;
- Consider CCTV in problem areas;
- Continue to educate the public on what responsible pet ownership entails through signage, engaging local community groups and utilising social media.

# GOOD FOR THE HOOD, A JOURNEY FOR YOUR AVERAGE NOBODY



Joanne Taranto & Corina Seeto,  
Good for the Hood

On 3 June 2017, residents of the City of Ryde, Jo Taranto and Corina Seeto started a community waste reduction campaign. In 12 months they went from local nobodies to working with ABC television and appearing on Q and A to share their messages. But they aren't unique, and every community can have the same success with the right help.



## Why take action?

Jo and Corina had been involved in Bushcare and community clean ups for 4 years before they felt compelled to address the litter issues they saw around their suburb. It was an experience with their sons (they have 2 boys each) during bushcare that compelled them to start something to tackle litter from single use plastic. Their children had already started calling the creek line behind their house "Treasureland" (not because of its natural beauty, but because of the rubbish that washed through the area on a regular basis). After finding what the boys called a 'jellyfish' in the creek, and seeing it was actually the plastic lining of a coffee cup, they realised they had to take action to address single use plastic at a local level.

## How did they do it?

With a high profile marketing and change management careers under their belt, Corina and Jo used a process called 'User Experience Design' to guide their analysis of the local issues. They took council waste data, surveyed 200 local mums, conducted guided interviews and observational analysis and organised their information into actionable insights. They learnt that any successful campaign needed to :

1. Keep it positive
2. Keep it local
3. Take one small step at a time
4. Build Relationships
5. Keep it light

5 for Ryde was born.

## What helped them?

5 for Ryde received auspice support from the Ryde Hunters Hill Flora and Fauna Preservation Society and the Australian Conservation Foundation which enable them to apply for grants as an auspiced Not For Profit. In 2017 they were awarded:

- A small grant from the City of Ryde Council (\$1000)
- An inaugural Kazzie Award (\$2500)
- A KAB NSW/EPA community Litter Grant (\$5000)

## What was the impact?

- Local media coverage (2 front page stories in Northern District Times) and 3 articles in The Weekly Times.
- helped over 120 cafes (100 in Ryde) become Responsible Cafes

- Have helped 10 venues go 'straw free' in the last 4 weeks with a goal to hit 40 more by Christmas 2018!
- Conducted over 10 clean ups and collected over 300 bags of waste from waterways and parks.
- grown our social media following of 4,500 (Facebook + Instagram)
- created 4 x Boomerang Bags sewing communities sewing over 1500 bags with a view to helping stores go Plastic Bag Free in 2019
- Over 300 active volunteers who attend clean ups and waste related events.

## Where to now?

In June 2018, Corina and Jo launched social enterprise, Good for the Hood to help spread the learnings with communities all around Australia. A collaboration with ABC TV's War on Waste series has helped them launch a free Action Toolkit for anyone to launch a local campaign easily and effectively.

Councils are invited to be part of the movement to phase out plastic straws around Australia by joining with Good For the Hood and The Last Straw.

Anyone wanting to create good for you hood? Get in touch!

# LITTER REDUCTION PROGRAM AT CUMBERLAND SCHOOLS – A CASE STUDY FROM LIDCOMBE PUBLIC SCHOOL

Litter is one of the common problems schools and communities in NSW experience. Schools can play a key role to help communicate the message of litter and its impacts to students and the wider community. Educating students about litter, its impacts and the role they play within the community is fundamental in changing attitudes towards the issues and achieving behaviour change that will result in cleaner schools and surrounding areas.

## Litter education at Lidcombe Public School, how it all began

Following the Cumberland Council's Baseline Litter Audit Report 2016, Council realised that litter education needs to be extended to schools and parents. Council began offering the newly developed Litter workshops from Keep Australia Beautiful NSW's EnviroMentors program to schools in the area. Lidcombe Public School, a large school with 810 students and 80 staff, registered the whole school for the EnviroMentors incursion program. The school was planning to develop a waste management program to effectively reduce litter and recover more waste from the school. Timing could not have been better when the school approached Council to support their initiative.

Cumberland Council supported Lidcombe Public School to deliver a comprehensive litter reduction campaign to educate and create awareness among their school community as well as to help achieve attitudinal and behavioural change.

The litter educational program included following steps.

## Baseline data collection through student knowledge survey and litter check:

Baseline data collection is one of major activity developed for this educational program. Baseline data helps to measure the changes before and after the educational program. Cumberland Council and Keep Australia Beautiful NSW developed student knowledge survey and litter check forms for the school to establish baseline information.

### a- Student knowledge survey:

Surveys were design to gauge students' knowledge about litter and waste disposal as well as their attitudes. Surveys were completed online by students from Years Three to Six as a sample, with the aid of their teachers before taking part in EnviroMentors incursions or the introduction of the new playground bin system. The same survey was issued after the incursions, litter check and bin introduction.

### b- Litter audit on school grounds:

Eco-kids at Lidcombe Public School conducted a litter audit on the school grounds to achieve the baseline data through litter collection, sorting and analysis. This was completed over a period of two weeks.



Students were given the litter audit form, a collection bag and map of the area to conduct their check. The students marked the location of bins and where litter has been thrown on their map. All litter found was collected in the bags provided. The collected litter got sorted into different categories such as paper, plastic, food waste, glass, metal and other materials by the students. This activity is designed encourage critical thinking by students, asking them to analyze the correlation between littering and bin placement, eating areas and playing areas. Litter check was conducted to see behaviour change pre and post education.

## Education

### a. Whole school litter education: EnviroMentors Incursions

The EnviroMentors incursions saw 748 students from Kindergarten to Year Six participating in 27 individual class workshops over a 5-day period. The program takes one enrollment class at a time to participate in workshop 45 minutes to an hour long, on issues of sustainability and waste. The program has great success in working with council's to behavior change in primary school students, due to the individual class workshops, allowing the educator to cater for both age groups and existing knowledge.





## Alina Tamrakar Maskey, Cumberland Council & Hailey Durham, KAB NSW

In this instance, the modules delivered was tailored for the schools needs, combining aspects of the "Litter" module with the "In The Bin" module to not only educate students about littering and it's impacts, but also prepare them for the incoming playground bin system through engaging and interactive lessons. Lidcombe Public School have been enthusiastic participators in the program in previous years, thus students were familiar with the workshops and responded enthusiastically.

### b. Workshop for P&C

After the completion of the EnviroMentors workshops, Council delivered a litter workshop for P & C group in which 15 members participated.

## Post incursion data analysis

### a. Student knowledge survey

While response to the post incursion survey was almost half than the pre-survey, we were still able to gather some insights into behaviour change by the students. Both pre and post surveys identified that students had a good understanding of littering actions, though the post survey

shows a better understanding of the definition of litter, the movement of litter via stormwater systems and animals, and a decrease in the number of students who didn't think litter was a problem at their school.

The results showed that students are aware that litter was a big problem at their school.

Limitations to the survey method include, teacher enthusiasm lapsing as not nearly as many post surveys returned, students fear of punishment, not answering truthfully about their own littering behaviours, possibility of survey questions not being understood and the timing of surveys, coinciding with busy teaching periods is a possibility.

### b. Litter audit

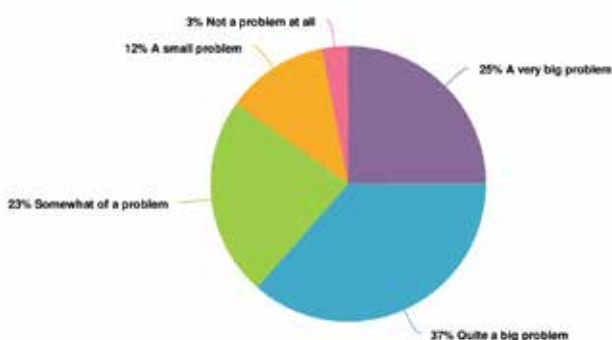
A post-incursion litter audit was conducted on school grounds in Week 10. As before, the litter audit involved collection, categorisation and data analysis.

The audit showed that positive behaviour changes had been adopted by the students. However there has been few inconsistencies in data which could have been the result of factors such as-

- Students not having enough time to collect all the litter in an area;
- Conducting the check after a school fete; and
- Students were given more time to collect rubbish for the post-incursion litter check but the check was more thorough during post-incursion.

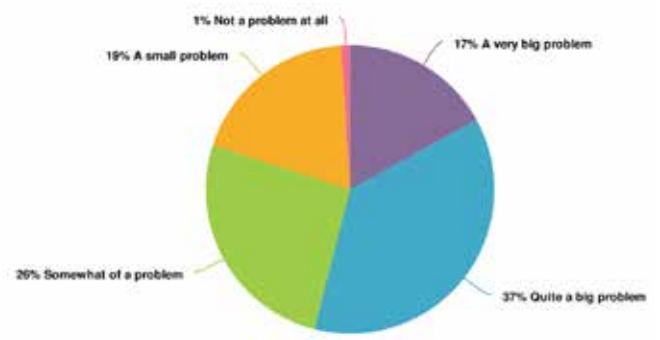
Location	Pre-in-cursion data	Post-in-cursion data	Comment
	(number of items collected)		
COLA/Kinderergarten grass	91	31	Mostly soft plastic
Canteen/ Stage 1 Fields:	120	105	Mostly soft plastic or foil wrapper
Stage 2/ Stage 3 Grass	116	110	Collected after a school fete.
Stage 2/ Basketball courts	27	31	Collection of litter was more thorough
Primary Asphalt	13	43	The check was conducted after a school fete, which was held in this area

1. How much of a problem is littering in your school?



Pre-incursion survey result

1. How much of a problem is littering in your school?



Post-incursion survey result

# LITTER REDUCTION PROGRAM AT CUMBERLAND SCHOOLS – A CASE STUDY FROM LIDCOMBE PUBLIC SCHOOL

Continued

Soft plastic is highly littered items in the school grounds and the school aims to tackle this through other behavior change initiatives.

## Infrastructure and Resources Establishment

Council provided recycling bins in the playground with signage, as well as collection at no cost to the school. Council also provided litter packs with to encourage safe litter collection. In order to have the education translated into behaviour change Lidcombe Public school introduced several bin bay stands in the school ground and placed a red and yellow bin next to each other along with appropriate signage on each bin. This will encourage students to place their litter in the appropriate bins and recycle where possible.

## Participation in Council Activities:

Lidcombe Public School always showed great participation in Council education initiatives. The school also participated in the "Primary School Litter Poster Competition" organised by Cumberland Council. This was a valuable opportunity for students to show their creativity and help schools and local community to reduce litter on streets and public spaces.

## Other Litter Reduction Activities at School

Following the result of litter audit, Lidcombe Public School developed litter reduction initiatives at school to reduce the generation of soft plastics and other waste at school grounds.

## a. Introduction of Waste Free Wednesdays

The school started informing the parents about waste free lunches through school newsletter for few weeks and finally launched "Waste Free Wednesdays". To officially launch the initiative, the Eco-Kids decorated mini-lunch boxes which were used as prizes for a class raffle for students with waste free lunches on the day.



## b. Introduction of reusable lunch order wallets

The P&C organised the affordable reusable lunch order wallets (\$10) to further help school reduce waste during lunch time. The school has sold over 100 wallets so far. The wallets can expand to a bag to hold the lunch orders. This initiative has been one of the most successful fundraisers the P&C has organised this year.

## c. Introduction of recycling bins in classrooms

Teachers at Lidcombe Public School have been demonstrating and guiding students about how to recycle right. The Eco-Kids placed posters and class labels on over 35 bins and distributed the bins to all the classrooms. The students empty the bins to large recycling bins once the classroom bins are full.

## d. Communicating information to parents

Parents and wider community were kept informed of progress of the

program through school newsletters and educational posters. The newsletters had featured the school's environmental journey, and waste free initiative along with various factsheets and information about litter.

## Future programs

Lidcombe Public School plans to undertake following initiatives this year

- Soft plastic collection;
- Setting up more worm farms within school;
- Drink bottle collection (Return and Earn Scheme);
- More litter checks; and
- Continued EnviroMentors and other workshops for students, teachers and the P&C

## Conclusion

Appropriate whole school educational programs coupled with relevant resources and infrastructure provided opportunity to improve the approach towards litter and help instill positive behaviour among students, teachers and parents.

Lidcombe Public School has committed to continue the education program through introduction of other behavioural change programs as well as encourage students outside the Eco kids to participate in those programs.

The school envisaged that the students and teachers have greater ownership and responsibility to help improve the environment within the school and beyond and is committed to continue its journey through collaboration with Council, Keep Australia Beautiful NSW and other relevant stakeholders.

# ENVIROMENTORS

AUSTRALIA'S LEADING MOBILE INCURSION-BASED ENVIRONMENTAL EDUCATION PROGRAM, REACHING EVERY CORNER OF NSW WITH SUSTAINABILITY WORKSHOPS



## BENEFITS

10 educational modules meeting objectives of:

- Litter reduction
- Bin contamination
- Organic recycling promotion
- Waste reduction
- Resource conservation
- Water specific conservation
- Sustainability



## SERVICES

- School Workshops
- Community Workshops
- Corporate Programs
- Litter Audits
- Education Materials
- Community Displays



## OUR TEAM

Our Sustainability Educators are fully qualified primary and secondary education teachers with a depth of experience in lesson planning and class management.

# BILL POSTERS – VIBRANT PUBLIC INFORMATION OR OUTDATED COMMUNICATION PLATFORM?

## Introduction

Bill posters are the oldest form of advertising dating back centuries. The use of bill posters presents a challenge for most Councils, particularly, as they are often posted without consent from the owner of the property. In response Councils are spending considerable resources to tackle bill posters. The current legislation governing bill posters has limitations and requires strengthening to enable Councils to effectively prosecute those responsible.

## What is bill posting

By their nature bill posters are intended to be public announcements. The Merriam Webster dictionary defines a bill as a written or printed advertisement posted or otherwise distributed to announce an event of interest to the public, typically using placards or posters.

There 3 main forms of bill posters, these are:

- Adverts for local events such clubs and pubs, bands, garage sales, rentals, lost pets, community events/fete,
- Product sales such as warehouse and brand sales, these typically are high quality and are placed in prominent places multiple times to gain as much traction as possible.
- Public pressure groups and politically motivated campaign posters such as university talks, political events, demonstrations and vigils.

## Why use bill posters

Bill posters are the oldest form of advertising and brand recognition. For the advertisers and marketers, they are known to be effective in reaching target audience. Bill posters can be highly targeted to specific neighbourhoods and consumers.

Bill posters can be produced to meet demand in a timely manner and in a relatively cost-effective way compared to formal advertising.

Bill posters are a relatively cheap way for publicising an event, easy production and inexpensive to distribute. They are perceived to have greater reach of target audiences, due to visibility to cars, public transit on buses, taxis, rideshare and pedestrians and cyclists alike.

Bill posters are considered by some as being subversive against mainstream advertising industry and culture.

Mostly importantly, they are considered to be difficult to control, in New South Wales partly due to the legislative limitations of the Graffiti Control Act 2008.

## Bill posters vs social media

Despite changes in the media landscape, the rise of social media platforms such as Facebook, Instagram, Twitter and other web-based platforms such as Google, applications, and others; bill posting has remained prevalent in most Council areas. This is partly due to advertisers using every available marketing channel to engage the target audiences. Bill posting remains in the mix along with other communication and advertising platforms.

## Challenges with bill posters

The primary concern with bill posters is they are unsightly and can result in litter from the posters and potential for the paper to enter stormwater channels particularly after rain.

Posters can be unsightly, produce negative image of the local areas which signal a lack of care or community apathy. According to the Broken Window theory, this can lead to an increase in anti-social behaviours and petty crimes, and the resultant social and economic impacts.

## Legislative context

### Graffiti Control Act 2008

In New South Wales the Graffiti Control Act of 2008 is the main legislation for managing and responding to bill posting. Section 6 of the Act makes it illegal to post a bill on any premises without first obtaining consent from the occupier or owner of the premises. The Act states: A person must not intentionally affix a placard or paper on any premises so that the placard or paper is within view from a public place, unless the person has first obtained the consent of the following:

- (a) if the premises are occupied--the occupier or person in charge of the premises,
- (b) if the premises are unoccupied--the owner or person in charge of the premises.

The Act provide for a maximum of four penalty units or \$440 for those found to be in contravention of the Act.



## Mateshepo Molala, City of Sydney

### Protection of the Environment Operations Act 1979

The Protection of the Environment Operations Act 1979 remains the strongest enforcement tool. Section 95 of the Act states that a Pollution Prevention Notice or Clean Up Notice can be issued in the case of an activity which is likely to cause a pollution incident. Section 146A of the Act provides for Penalty Notices to be issued for the depositing of unauthorised advertising material. Prosecution of repeat offenders under this provision is difficult.

### Current responses to bill posters

There are three main ways that Councils respond to bill posting

Provision of poster pillars - poster pillars provide the public with a public facility for posting notices, which are appropriately located and well maintained.

Active identification and swift removal of posters to limit their time in the public domain and potential for reaching audiences. This is a significantly costly exercise with some Councils paying as much as \$1 million in clean-up contracts.

Law enforcement - Council continue to undertake law enforcement activities utilising the available laws, however penalising offenders and deterring from future bill posting is a challenge. Identification of individuals is problematic and can often impede enforcement proceedings. To penalise the companies responsible for promotions and those profiting from the bill posters is a challenge. In addressing this challenge the NSW government committed to

reviewing the Graffiti Act with a view to strengthening the provisions of the Act to address the shortcomings outlined earlier.

### Way forward

Councils commit significant resources to respond effectively to bill posters and minimise associated impacts. However, without strong legislative instruments this challenge will remain unresolved.

The NSW government has committed to review the Graffiti Control Act the review was intended examine: transferring responsibility from the bill poster to the commercial entity/individual that gains financial benefit; increased penalties and the implications for giving councils the power to issue penalty notices.

The review has since stalled and it is timely to discuss options available for us to advocate for the legislative change so that we can effectively regulate this activity and work with all stakeholders to identify the most appropriate solutions and approaches that will deliver the results.

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# PROVIDING CUT THROUGH IN LITTER EDUCATION

## Abstract

The Eaton Gorge Theatre Company is living proof that creativity and the arts can bolster environmental change. Learn about their engagement with Shoalhaven Council to target illegal dumping and littering behaviour in school children. Discover how engagement, education, and play can really make a difference in your community and how theatre, art, and interactivity can reach children and communities in a way that other litter campaigns may not.

## Introduction

The EGTC has been working with the Shoalhaven Council for over 10 years starting with an education program to tackle water saving using a well known local mascot Tapstar. The EGTC team worked with local children to develop a new program complete with a 45 minute play and teaching resources that impacted children of



primary school age. The program has continued to run in the Shoalhaven for over 10 years and regularly makes visits to Victoria and the South Coast for other Councils to assist in the water saving and clean waterways message.

Since then EGTC has been working with many councils using theatre to compliment main stream marketing campaigns and engage the target market head on using fun, facts and entertainment. Some examples have included;

1. The development of the **King and Queen of Green** who look at variety of environmental issues including litter and waste education in particular recycling
2. **The Little Aussie Buttlers** to address cigarette butt litter,
3. **Ordinary Man and Plain Jane** to focus on street litter and chewing gum
4. **The Cockroaches Flicka and Chucka** who looked at litter at the beach and on the street.
5. **The Litterbug** for Manly council focusing on single use plastics
6. **Sammy the Sailor and Shellie the Mermaid** who look at where litter comes from and where it ends up

## The Case Study - The Dump Zone

NSW Premier Mike Baird announced in 2015 that the State Government wanted NSW to be the least rubbished / littered State by 2020, and set a reduction in rubbish target of 40%.

The Shoalhaven is the number one tourist destination outside the Sydney region with the population exploding to over 300,000 during peak holiday times.

The potential adverse impact that illegal dumping and littering has on endangered and vulnerable flora and fauna is very real. With that in mind and the value of those natural assets to the community and visitors, Shoalhaven City Council Rangers in partnership with Waste Management staff at Shoalhaven Council decided to look at how to reduce the estimated 300 tonnes of waste that is dumped in the bush each year.

After looking at existing advertising and marketing campaigns to reduce littering, it was decided to think outside the square and adopt an approach where the education of children could be the answer. Childhood memories of theatre performances at schools with a message that sticks had worked well with other campaigns in the Shoalhaven so the Ranger Unit engaged EGTC to create a new play targeting year 4 - 6 students (8 - 12 year olds) to discuss the issue of illegal dumping and its effect on the environment.

EGTC visited local schools to determine the existing knowledge of the children and to determine what their feelings were towards litter. Surprisingly they really didn't know much about what illegal dumping was and how it affected the environment they lived in. Children were also encouraged to discuss what messages should be included in the performance and what type of language should be used eg what level of language and complexity suited that age group.

This information was then incorporated in the development of the script focusing on the environment using puppets or existing animals that were rare and endangered and human size animal characters to get the message



Juliet Scrine,  
Eaton Gorge Theatre Company

across. A Ranger character is the Hero character and key message giver.

Following the trial of the new show **The Dump Zone** children became aware of the impact of littering on native flora and fauna and also remembered the reporting hotline number. The play will now be rolled out to all Shoalhaven schools over the next six months and we will be able to measure the effectiveness of the campaign during the busy Summer tourist time.

Using theatre with an age specific message is a powerful way to deliver a campaign in a subtle and memorable way. For over 10 years EGTC have been using this approach looking at recycling, composting and ways to reduce waste to landfill with great success. The characters from the plays then extend themselves outside the performance and attend public events that help reinforce the messages to the wider community.

Being in character helps break down barriers and encourages discussion and stimulates thought that can lead to behaviour change. Pester power is a valid way of communicating a message in a family and encouraging everyone to think before they litter.





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