NSW Litter Prevention Strategy 2022–30

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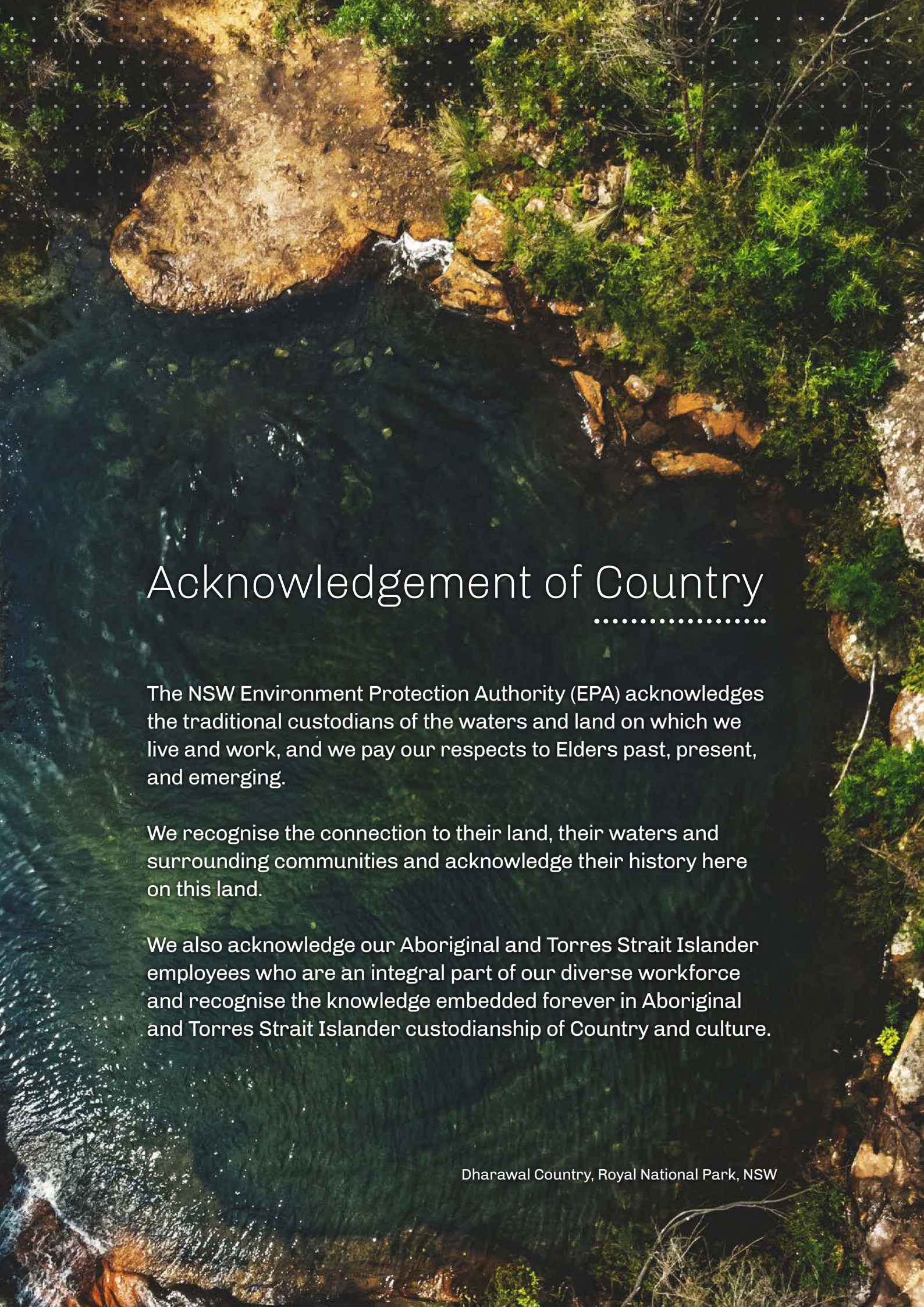
Contents

Acknowledgement of Country 4
NSW Litter Prevention Strategy 2022–30 5
Our vision 5
What is litter and why is it important? 5
Our objectives 6
How will we achieve this? 7
How will we track progress? 7
Integrated litter prevention strategy 8
Approach 1: Source control 9
How will litter be prevented at the source? 9
NSW Plastic Action Plan: Single-Use Plastic Phase Outs 10
Voluntary phase-outs of problematic items 10
Approach 2: Diversion to a circular economy 11
How will we divert waste away from the litter stream and back into the circular economy? 11
Product stewardship and Extended Producer Responsibility (EPR) 12
Approach 3: Education, awareness and engagement 13
Why is creating awareness, education, and engagement important? 13
How will we create awareness, educate, and engage? 14
What litter prevention education resources are available? 14
Partnerships, cross-sector engagement and collaboration 14
Building a litter prevention community of practice 15
Approach 4: Regulation and enforcement 16
Why do we need to enforce litter laws? 16
What are the litter laws? 16
What are the fines? 17
How will we regulate and enforce littering? 17
Approach 5: Infrastructure and clean-up 18
Why is infrastructure important? 18
Why is clean-up important? 19
How will we deliver infrastructure and clean-up? 19
How will funding be allocated? 20
Approach 6: Targeted programs to stop litter dispersal 21
Why do we need targeted programs? 21
What targeted programs will be delivered? 21
Approach 7: Monitoring, evaluation and research 24
Why do we need to conduct research, and monitor and evaluate our work? 24
How will we monitor, evaluate and research? 24
Appendices 27
Appendix A: Understanding litter 27
What do people think of litter? 27
Why do people litter? 28
Appendix B: How do we measure litter? 29
Baseline and targets 29
Target 1: 30% reduction in plastic litter items by 2025 29
Target 2: 60% reduction in all litter items by 2030 29



Acknowledgement of Country

The NSW Environment Protection Authority (EPA) acknowledges the traditional custodians of the waters and land on which we live and work, and we pay our respects to Elders past, present, and emerging.

We recognise the connection to their land, their waters and surrounding communities and acknowledge their history here on this land.

We also acknowledge our Aboriginal and Torres Strait Islander employees who are an integral part of our diverse workforce and recognise the knowledge embedded forever in Aboriginal and Torres Strait Islander custodianship of Country and culture.

Dharawal Country, Royal National Park, NSW

This document outlines the NSW Litter Prevention Strategy 2022–30 (the Strategy) that builds on the foundation of an already effective strategic approach.

In 2015 the NSW Government aimed to reduce litter by 40% by 2020. This was achieved in 2020 with a 43% reduction in litter volume. Building on this success, ambitious new targets have been set in the Waste and Sustainable Materials Strategy 2041 (WASM) and NSW Plastics Action Plan. These are:

- Target 1: 30% reduction in plastic litter items by 2025.
- Target 2: 60% reduction in all litter items by 2030.

To achieve these targets the NSW Government has provided $38 million for litter reduction programs under Stage 1 of WASM. This Litter Prevention Strategy outlines the significant steps that, together, we need to take to change our behaviour and reduce litter for the long term. **Everyone has their part to play.**

In 2020 NSW achieved the State target to reduce litter by 40%

Our vision

We want NSW to be a clean, safe and healthy environment that we can all share and enjoy. We want to ensure communities are continually empowered and enabled to achieve litter-free environments and support a circular economy.

The community wants a clean State now and in the future. Reflecting this, we are committed to tackling litter.

What is litter and why is it important?

Litter is anything unwanted that has been thrown away, blown away or left in the wrong place.

Common litter items are takeaway and beverage items, confectionery and snacks, drink containers (plastic and metal), cigarette butts, small pieces of paper, bottle caps, plastic straws and pieces of glass bottles. Litter includes advertising and promotional material left in the wrong place.

A littered environment has many consequences and some of these may not be immediately obvious.

Table 1 The impacts of litter

Impact	Outcomes
Visual	Litter makes places look unsightly and uncared for and attracts more litter. This reduces the amenity of outdoor public space that is essential for community recreation and well-being.
Health	Some litter, such as broken glass and syringes, can injure people. The presence of litter makes it more likely that other serious anti-social behaviour will occur, like graffiti and property damage.
Environmental	Litter damages natural environments and harms wildlife, on land and in our waterways. Ingestion of plastic litter has been found to cause harm to animal populations.
Economic	Litter has heavy financial costs borne directly by the people of NSW. A 2016 MRA study estimated $167 million to $198 million a year is spent on cleaning up litter in NSW. Most of this money is spent by councils on behalf of their residents and ratepayers. Recent research (2022) found that litter costs NSW more than $500 million a year when indirect costs are included, e.g. loss of visual amenity.[1]
Resource	Easily recyclable resources, such as drink bottles, are lost when people litter.

1 www.epa.nsw.gov.au/your-environment/litter-and-illegal-dumping/about-littering/litter-research

This Litter Prevention Strategy distinguishes between litter – material roughly no larger than a full supermarket bag – and illegally dumped rubbish, which is often larger items. 'Illegal dumping' covers:

- bulky waste, such as general household rubbish
- large household items, such as fridges and mattresses
- garden materials
- building materials
- clinical and hazardous waste
- abandoned cars
- tyres.

Although littering and illegal dumping have some similarities, the two behaviours occur at different places, times and rates, and there are different reasons behind them. The NSW Government has therefore developed the separate NSW Illegal Dumping Strategy 2022–27. The work of implementing the two strategies is integrated through shared information and cooperative approaches across government and with stakeholders.

Our objectives

The Waste and Sustainable Materials Strategy 2041 and the NSW Plastics Action Plan have set two litter reduction targets for NSW (Table 2). The baseline for these targets is the 2018 and 2019 data on the number of littered items in NSW, that are measured using the Key Littered Items Study (KLIS).[2]

Table 2 Litter reduction targets for NSW

Target	Baseline (2018 + 2019)	Target value
30% reduction in PLASTIC litter items by 2025.	158 items per 1000m^2	111 items per 1000m^2
60% reduction in ALL litter items by 2030	190 items per 1000m^2	76 items per 1000m^2

To supplement these targets, the NSW EPA proposes to set a supporting cigarette butt litter disposal target to tackle what is the most littered item. This target (Table 3) will be tracked using the biennial Butt Litter Index, which is an observational study of smoker behaviour at selected smoking sites around NSW. The baseline for this target is the 2020 Butt Litter Index, which is delivered by the NSW EPA.[3]

Table 3 Cigarette butt littering target for NSW

Target		Baseline (2020)	Target value
50%	reduction in cigarette butt littering behaviour by 2030	64% butt littering rate	32% butt littering rate

Litter data are inherently variable from year to year, so it is important that they are used across many years as we keep up the momentum to embed anti-litter behaviour for the long term. This means focusing on education and public awareness, keeping our infrastructure well-maintained, promoting and enforcing litter laws, and monitoring how well we are doing. We'll do all of this in partnership with communities, businesses, local councils and other government agencies.

2 The KLIS is delivered by the NSW Department of Planning and Environment's Water, Wetlands and Coastal Science Branch.

3 Taverner Research 2021, Butt Litter Index 2020: Research on Cigarette Disposal Behaviour for the NSW Environment Protection Authority, Sydney.

How will we achieve this?

The NSW Litter Prevention Strategy provides the framework we use to prioritise funding and action to reduce litter and achieve our objectives. The Strategy clearly expresses a litter prevention agenda for the State that everyone can use. We're all responsible for litter and we can all help. To do this, we need to integrate the elements of litter prevention across seven approaches (Figure 1):

Approach 1: Source control

Approach 2: Diversion to a circular economy

Approach 3: Education, awareness and engagement

Approach 4: Regulation and enforcement

Approach 5: Infrastructure and clean-up

Approach 6: Targeted programs to stop litter dispersal

Approach 7: Monitoring, evaluation and research.

These are covered in detail below.

A critical companion to the Strategy is the 5-year **Litter Prevention Implementation Plan 2022–27** that will outline how everyone can contribute. This Plan will help to integrate the actions to achieve litter prevention targets and will be regularly reviewed and refined, in consultation with stakeholders in litter prevention. An updated Litter Implementation Plan will be set in place for 2027–30.

How will we track progress?

A **Report Card** will be developed and published to outline progress and actions against the Litter Prevention Implementation Plan. The Report Card will be updated every two years to detail key outcomes and actions completed.

Actions under the strategy will be monitored and evaluated with the help of the EPA **Litter Data Framework** (see the section below on Approach 7: Monitoring and Evaluation). Detail on the current state of litter in NSW and information on how litter is measured and tracked is listed in Appendix B.

Integrated litter prevention strategy

Figure 1: The NSW Litter Prevention Framework 2022–30

Approach 1: Source control

Source control is reducing or eliminating items and material before they are created or introduced into the economy, in order to reduce waste and litter.

Reducing or eliminating the input of materials into the economy, at source, can be the most cost-effective approach to reduce the flow of waste and litter into the environment. Doing so requires less reliance on downstream interventions such as recycling or clean-up programs. While eliminating items and materials is effective, it is not always practical. Prioritising problematic litter and waste items for reduction and phase-out will help achieve long-term waste and litter reduction targets.

How will litter be prevented at the source?

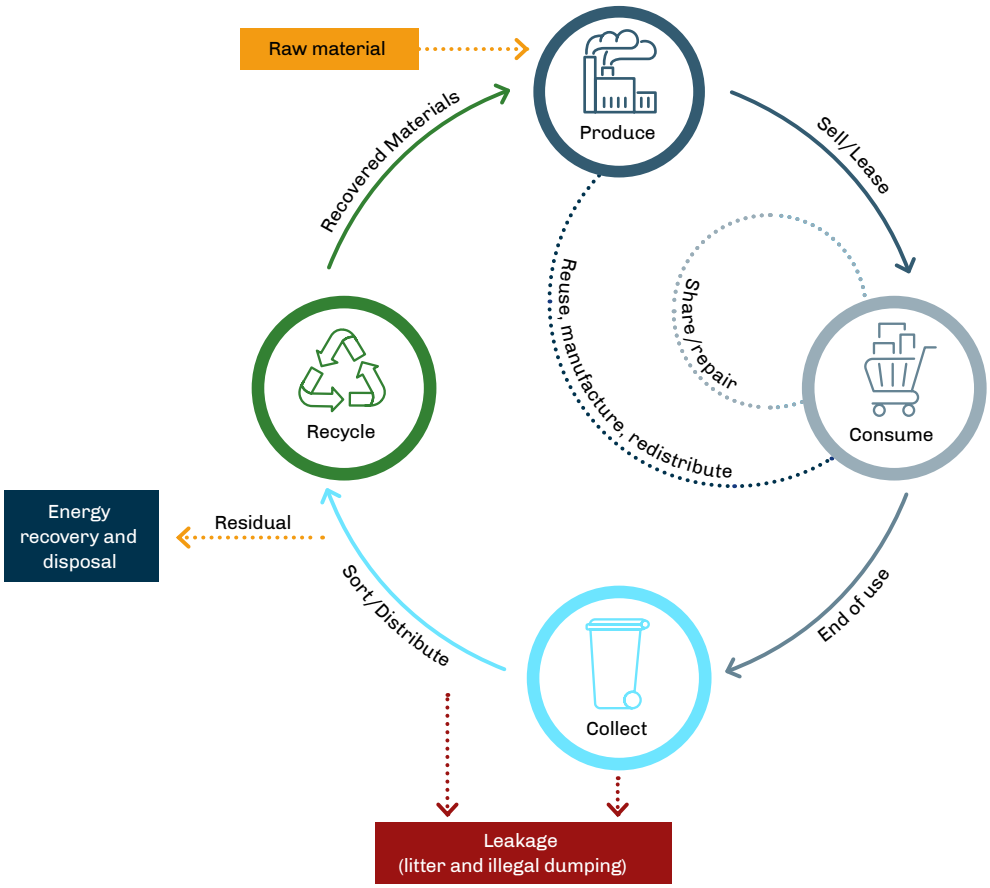
Moving towards a circular economy

The NSW Government's commitment to a circular economy is aimed at minimising waste and promoting the continual reuse of resources. The more resources can be redesigned, repurposed and reused, the less likely they are to become waste and litter.

Guided by the Waste and Sustainable Materials Strategy 2041, the NSW Government will continue to introduce incentives to drive improvements in product and material redesign and recycling before they become waste and litter. This has been backed by $356 million in new funding over the next 5 years.

Monitoring and evaluation, drawing on the EPA Litter Data Framework, will help to inform broader circular economy policy to ensure that leakage of materials from the economy in the form of litter can be accounted for and better managed.

Figure 2: The leakage of litter from the circular economy



NSW Plastic Action Plan: Single-Use Plastic Phase Outs

The *Plastic Reduction and Circular Economy Act 2021* (the **Act**) was passed into law by NSW Parliament on 16 November 2021. From June 2022, the Act prohibits the supply of lightweight plastic bags and, from November 2022, the supply of single-use plastic cutlery, plates, bowls (without lids), stirrers, straws and cotton buds with plastic stems, expanded polystyrene food ware (such as clamshells, cups, plates and bowls), and plastic microbeads in rinse-off personal care products. By phasing out these targeted items we will stop almost 2.7 billion pieces of plastic from entering the rivers, catchments, bushland and coastal waters of NSW over the next 20 years.

For more information on the NSW Plastics Action Plan, please visit the NSW Planning and Environment website.

The phase out of problematic single use plastics is expected to reduce overall litter items by up to 20%

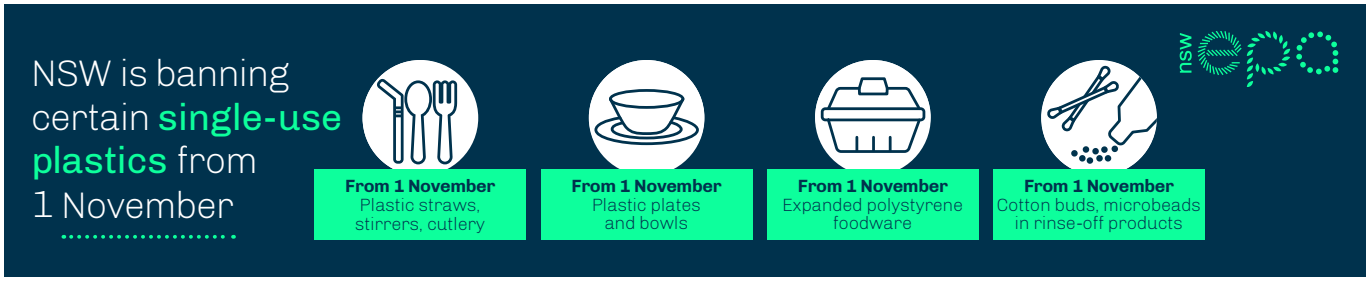
The NSW Plastics Action Plan commits to reviewing other items in 2024 (i.e. 3 years from the passage of legislation), to consider whether further phase outs are needed. Items already flagged for review are single-use plastic bowls (with lids), cups (including lids), oxo-degradable plastics, non-compostable fruit stickers, heavyweight plastics shopping bags and 'barrier' bags. The NSW Government may choose to review other problematic products at this time. The EPA Litter Data Framework will help inform these decisions.

Voluntary phase-outs of problematic items

While the NSW Government has decided to phase out certain problematic items, it is recognised that industry and small business have voluntarily ceased supplying certain items that contribute to litter, and they will continue to do so.

Major retailers have already flagged their intention to pursue a national, voluntary phase out of heavyweight plastic bags over the next 2 to 3 years and many small businesses are already moving to reduce single use items. In addition, local government continues to play an effective role in identifying problematic items in their local jurisdictions and working with local businesses and residents to phase them out.

The NSW Government will engage, educate and partner with key stakeholders to identify opportunities and support action to reduce the supply of problematic items that tend to become litter. Actions will be supported at local, regional, sectoral, State and national scales.



Single-use plastics phase out program.

Approach 2: Diversion to a circular economy

Diversion to the circular economy requires developing incentives and programs to divert key items that would otherwise be littered, towards recycling and reuse initiatives. Recycling and reusing waste and resources before they become litter will support both litter prevention and circular economy outcomes.

As we transition towards a circular economy, the Litter Prevention Strategy will continue to support partners and incentives that divert key littered items away from our streets and rivers and back into reuse and recycling.

How will we divert waste away from the litter stream and back into the circular economy?

Return and Earn

The approach of diverting items to a circular economy is exemplified by the Return and Earn program, which started on 1 December 2017. It is the NSW Government's initiative under the Container Deposit Scheme to reward responsible disposal of eligible beverage containers, in a way that reduces litter and increases recycling. This enterprise has been successful in recovering more than 7 billion containers and halving total beverage container litter volume within its first five years of operation.

By encouraging and rewarding the return of eligible beverage containers, Return and Earn influences litter behaviour in two ways:

1. it encourages the person consuming a drink to hold on to the empty container and return it for a 10-cent refund, and
2. it provides an incentive for other people to pick up littered containers and receive the refund.

Return and Earn complements kerbside recycling systems already in place for households and helps us reach ambitious litter reduction and recycling targets for NSW.

Since the introduction of Return and Earn, eligible beverage container litter has reduced by over 50%

Who runs Return and Earn?

The scheme that delivers Return and Earn works on a partnership model between the NSW Government and industry. It is fully funded by the beverage industry and delivered by two contractors, the Scheme Coordinator and the Network Operator.

The Scheme Coordinator, Exchange for Change, manages the scheme finances and undertakes scheme marketing and auditing activities. Exchange for Change is a consortium of 5 beverage companies – Asahi Holdings (Australia) Pty Ltd, Carlton United Breweries Pty Ltd, Coca-Cola Amatil (Australia) Pty Ltd, Coopers Brewery Limited and Lion Pty Ltd.

The Network Operator, TOMRA Cleanaway, is responsible for establishing and managing a state-wide network of beverage container return points and ensures the materials are collected and recycled. TOMRA Cleanaway is a joint venture between TOMRA – a Norwegian company that is a global provider of reverse vending technology – and Cleanaway, one of Australia's largest waste-management companies.

The NSW Government, through the NSW EPA, governs and regulates the scheme to ensure it is operating efficiently.

How does Return and Earn work?

Under Return and Earn, you receive the 10-cent refund when you return an empty eligible drink container to an approved return point. There are several options to return empty eligible drink containers, including:

- redeeming eligible containers at collection points
- donating eligible containers to charities, schools, sporting groups or other community organisations which can redeem them to claim the refund
- placing eligible containers into the kerbside yellow recycling collection bin as normal. Councils will receive a share of the refund, enabling them to offset their waste management costs.

To find out where you can return eligible containers, go to the Return and Earn website

or use the app. Returned containers need to be empty, uncrushed, unbroken and with the original label attached.

Confectionary wrappers and snack bags are now the most littered item in the Key Littered Item Study, accounting for around 20% of littered items found in NSW estuaries.

Product stewardship and Extended Producer Responsibility (EPR)

Product stewardship and EPR schemes provide accountability for producers to ensure their items are diverted away from the waste and litter streams and back into the economy.

While these schemes predominantly focus on ensuring items are diverted from landfill, it is important they prioritise litter prevention and associated impacts. The NSW Government, in partnership with the Federal Government, will use the EPA Litter Data Framework to engage industry to ensure heavily littered items or items that represent an identified environmental risk are considered as part of EPR and stewardship opportunities.

The NSW Plastics Action Plan identifies the need for producer responsibility for **cigarette butt litter**, which is the most littered item in this state. NSW will ensure its programs and extensive research and data on such litter is used to inform, guide and assess EPR schemes.

The NSW Government will explore opportunities to work with producers of other highly littered items, such as **confectionary and snack packaging**, to develop long-term litter solutions.

Takeaway containers and plastic bottles can take from 10 to 450 years to break down.

Glass bottles take up to 1 million years to break down.

Return and Earn Facebook campaign.

The increased use of vaping devices presents new waste and litter challenges. Vaping device components include a brittle plastic shell, lithium battery, circuitry containing heavy metals, and cartridges that hold concentrated mixtures of toxic nicotine. Although there are currently no recycling programs specifically for vaping products in Australia, technologies and recycling or disposal pathways are available for the individual components. The NSW EPA is partnering with other government agencies to examine how the Plastics Reduction and Circular Economy Act can strengthen legislative and regulatory tools and frameworks on this issue.

Bales of recycled plastic.

Approach 3: Education, awareness and engagement

Education seeks to change knowledge, attitudes, skills and/or behaviour.

Awareness involves drawing attention to, and inviting engagement with, an issue about which knowledge, skills and/or behaviour need to be changed.

Engagement requires reaching out to join with others to learn together and co-produce changes in knowledge, skills and/or behaviour.

These actions require campaigns and learning together with key partners and stakeholders to strengthen and increase litter prevention action. We need to engage and educate the community, consumers, and also businesses, government agencies and land managers.

Why is creating awareness, education, and engagement important?

To prevent litter, all stakeholders need to be aware of the problem, understand the impact, recognise their responsibility and take ownership.

Community campaigns raise awareness about littering and build the norm that littering is the wrong thing to do, and responsible disposal of rubbish is the right thing to do.

Engagement is critical to build coalitions of partners and build capacity across NSW to prevent litter for the long term.

The NSW EPA will launch a new litter prevention campaign in 2025, building on the success of the Tosser campaign messaging.

How will we create awareness, educate, and engage?

Campaigns

The NSW Government launched the Tosser! campaign in 2014 to achieve broad spectrum behaviour change. The campaign is built on research from 2012 and 2017 that showed that nearly everyone knows littering is wrong, and people litter when they think no one is watching. The *Don't be a tosser!* campaign continues to shed light on our behaviour and show people how easy it is not to litter. For Aboriginal communities and culturally and linguistically diverse communities (CALD) we have developed tailored messages and materials.

Informed by consultation with our stakeholders, the NSW EPA will launch a new litter prevention campaign in 2025, building on the success of the Tosser campaign messaging.

Don't be a Tosser campaign poster.

What litter prevention education resources are available?

We continue to develop new resources to help our community tackle litter.

- Tosser! materials, signs and other materials are publicly available via the EPA Litter Library at **litterlibrary.epa.nsw.gov.au**
- Social research results about litter and litterers, including smoking and cigarette litter.
- Information about designing good litter prevention programs.
- The online Local Litter Check to measure and evaluate litter projects.

These resources and tools are available on our website – go to **www.epa.nsw.gov.au** and search for 'Preventing litter'.

Campaign website – **www.dontbeatosser.epa.nsw.gov.au**

The campaign website is a critical campaign tool to educate and engage the NSW community in litter prevention. It shows where rubbish goes, how long it stays in the environment, its impact and how to get involved in litter prevention projects. It can be an educational resource for a range of stakeholders, including schools.

The NSW EPA will complete new social research that looks at the profile of littering behaviours across NSW, to guide how the campaign reaches its target audience.

Partnerships, cross-sector engagement and collaboration

Engagement and collaboration with key partners are critical to prevent litter. Preventing litter is not only the responsibility of consumers. Business, government and community groups all play a part, and they must, where appropriate, take ownership of preventing litter in their jurisdictions and operations.

Strong partnerships with local councils, State government agencies, and community groups will enhance our litter education and awareness

campaigns. Organisations that have partnered with the EPA to spread the anti-litter message include the following:

- local councils across NSW
- Transport for NSW
- NSW Police
- NSW National Parks and Wildlife Service
- Local Land Services NSW
- Service NSW.

Businesses also partner with local councils and the NSW EPA to reduce litter and spread campaign messages.

To support this strategy the NSW EPA will develop a **Litter Prevention Partnership Strategy** outlining how best we can work with partners to build long-term ownership and action on litter prevention.

Collaboration is key: As new litter prevention projects and strategies develop across NSW, it is critical that all stakeholders share lessons and identify opportunities to collaborate. The NSW EPA will take a lead in creating a collaborative environment. This will include a stronger coordination role across Government agencies.

Resources at the Litter Congress.

Litter educators.

Building a litter prevention community of practice

Since 2014 the NSW EPA has worked closely with key partners to deliver and support forums and events that build stakeholder capacity and recognise and celebrate achievements. One of the successes of the program to date has been the elevation of litter prevention practice and the creation of new leaders in this space. The NSW EPA will continue to build and work with communities of practice in litter prevention and to grow expertise in behaviour change, litter prevention strategy and project development.

NSW will deliver and support regular targeted workshops and forums to build stakeholder capacity. This will include dedicated support for stakeholders during the litter prevention grant application and delivery phases.

Approach 4: Regulation and enforcement

Why do we need to enforce litter laws?

The main reason we enforce litter laws is to encourage positive disposal behaviour. A key outcome is to increase the perception that you will be seen and fined if you litter.

Local government and many State agencies can enforce litter laws, depending on where the offence occurs: on roads and highways, national parks, coastal land, beaches and inland waterways, or built-up areas and transport corridors. Some of the State agencies that are authorised to enforce litter prevention are Transport for NSW, National Parks and Wildlife, Sydney Harbour Foreshore Authority, and Western Sydney Parklands Trust.

What are the litter laws?

The main law concerning litter is the *Protection of the Environment Operations Act 1997* (POEO Act). Under the Act, 'litter' is defined broadly and includes objects or liquid or any material that is deposited in a public place or 'open private place' (for example a private car park).

Among other things, the POEO Act covers:

Advertising leaflets	Advertising and promotional material must be placed under a door, in a letterbox or in a newspaper container. It must not be put, for instance, under windscreen wipers. These rules do not apply to newspapers.
Bill posting	Bill posting becomes a littering offence if the material has fallen off or is likely to fall off, creating litter. (The actual act of posting bills is dealt with under the *Graffiti Control Act 2008*).

Some other laws* that regulate litter and littering include:

Rural Fires Act 1997	Without legal authority, people may not drop a lit cigarette, match, or any other incandescent material on any land.
Companion Animals Act 1998	If a dog defecates in a public place, the dog owner or the person in charge of the dog at the time must immediately remove the dog poo and dispose of it properly.
The National Parks and Wildlife Regulation 2019	To help reduce cigarette butts, there is a smoking ban in all national parks. It doesn't apply to commercial buildings or private homes in a park.
Crown Land Management Act 2016	Improper use of Crown Land includes depositing any rubbish or litter, such as wet wipes or tissues, other than in a bin provided.
Passenger Transport (General) Regulation 2017	A person travelling on any public passenger vehicle – such as a bus, train, ferry, or tram – must not deposit any litter unless in a bin provided. Littering at train stations is covered by the Rail Safety (General) Regulation 2003.

*This is not a comprehensive list of laws that address incorrect disposal of rubbish.

What are the fines?

The POEO Act is often enforced through penalty notices. If the agency enforcing the litter laws takes someone to court rather than issuing a penalty notice, the court may impose a heavier fine. Penalty notice fines include:

- $80 for littering with small items, such as bottle tops and cigarette butts
- $250 for general littering
- $250 for littering from a vehicle by an individual
- $500 for littering from a vehicle by a corporation
- $450 for aggravated littering by an individual
- $900 for aggravated littering by a corporation.

'Aggravated littering' means littering that threatens public safety or the environment, such as intentionally breaking glass or littering lit cigarettes during fire season.

Some of the penalty notice fines under other legislation are:

- $275 (at least) for not cleaning up after dog poo
- $660 for littering a lit cigarette or match from a vehicle
- $1320 for littering a lit cigarette or match from a vehicle during a total fire ban.

How will we regulate and enforce littering?

Report to EPA littering from vehicle program

We have created an online system to let the public report litter thrown or blown from cars. You can report via our online system – see **reportlitter.epa.nsw.gov.au** or search for 'Report to EPA'. Around 90% of littering reported from cars has been cigarette butt littering. The EPA can issue a $250 fine based on the report.

You can report cigarette tossers through the NSW Rural Fire Service's webpage – visit **www.rfs.nsw.gov.au** and search for 'Report a cigarette butt tosser'.

The EPA will continue to promote Report to EPA through our campaigns and networks to expand our network of community reporters.

Since Report to EPA was introduced, over 65,000 community reporters have joined the effort, resulting in over 50,000 fines issued and over 40% less roadside litter.

Enforcement operations to increase the perception of being fined

Research shows that public perception of the likelihood of being fined for a littering offence is low. To be effective, enforcement must focus on increasing awareness of this risk, boosting visibility of local enforcement, advertising fines and using inclusive (e.g. culturally and linguistically diverse) design in anti-littering messaging.

The NSW EPA will work with local government and other authorised agencies to run programs that focus on increasing the visibility of the risk of being fined for littering.

Training and incentives to encourage on-ground enforcement

Issuing face-to-face fines remains a challenge for local authorities for many reasons. Rather than only increasing the number of fines issued, the most effective approaches focus on increasing the awareness of fines and raising the perception of the risk.

The NSW EPA will continue to provide support for local government and other authorised officers in litter enforcement training: **learning.epa.nsw.gov.au**

CASE STUDY:

Do litter fines work?

In 2021, the NSW EPA conducted research into the effectiveness of litter enforcement. Some recommendations and findings were:

- Make fines quick and easy to pay. Punishment is more likely to discourage a behaviour if it is applied directly after the offence.
- Share strategies and reframe enforcement as a preventative and cost-saving activity. Issuing authorities should not set key performance metrics for enforcement based on the number of fines issued or paid.
- An on-the-ground presence can be very effective at raising visibility and preventing littering behaviour. Training for authorised officers will help to overcome the perception of negative interactions with offenders.

Approach 5: Infrastructure and clean-up

This approach relates to the management of local public places, using place-based approaches to ensure they remain well-presented. If a public place is clean, people using it are less likely to drop litter. For a public place to remain clean, cooperation is needed between members of the public using the space, local residents and businesses, and the authority that manages the public space (which is generally the local council).

This cooperation is driven by an implied (i.e. generally unwritten) agreement between these groups of people that is sometimes called the 'social compact'. This is the shared understanding that everyone needs to play their part in keeping public space clean so everyone can enjoy its amenity.

Clean localities mean more than public place amenity – they also mean less litter is caught in rainwater runoff to escape down drains to the nearest waterway. A strategic approach to litter prevention in public places across a catchment (an area where all the water flows into a waterway) also supports litter-free creeks, rivers, estuaries and beaches.

Why is infrastructure important?

Clean, well-functioning public place infrastructure, such as footpaths, street furniture or signage, helps reduce littering by sending a message that litter doesn't belong. The right bin in the right place makes it easier for people to dispose of their rubbish correctly. Bins come in all shapes and sizes, including cigarette butt bins and recycling bins. Each bin and its placement sends a signal about what people are expected to do with their rubbish.

We need to provide clean, well-maintained bins that are fit-for-purpose in the location, taking into account who uses a site and how they use it. For example, a bin close to food outlets may need to take large pizza boxes and other food packaging. Bins in parks might need features to stop bird scavenging. What works in one area may not work in another.

Why is clean-up important?

Clean-up is vital for sending the message that litter doesn't belong. Sites that are clean stay cleaner, while littered sites signal that littering is the norm.

From 2012 to 2021 under the previous Waste Less Recycle More initiative, over $11 million in grants were provided to NSW local councils and community groups. This helped roll-out integrated programs with renewed infrastructure and clean-up as key elements, along with enforcement, education and evaluation.

How will we deliver infrastructure and clean-up?

From 2022 the NSW EPA will continue to provide grant funding to councils, communities and other key stakeholders as part of the NSW Litter Prevention Grants Program. This program will support litter prevention strategies and projects with funding allocated under the Waste and Sustainable Materials Strategy 2041.

A proposed program of action has been outlined in the 5-year **Litter Prevention Implementation Plan 2022-2027**. Please note this is subject to change and will be rolled out in consultation with stakeholders to ensure we support their needs to deliver targeted local projects.

The Litter Prevention Grants Program aims to build shared leadership with partners across NSW to drive down litter rates in the long term.

Volunteers collecting and counting litter.

How will funding be allocated?

NSW Government funding will be provided across three key streams for councils, regional waste groups, established community and catchment groups, government agencies and key stakeholders.

Stream 1: Local litter prevention and clean-up grants

Funding will be available to support stakeholders to deliver local, targeted, on-ground litter prevention projects that use an integrated approach to clean up litter hotspots, upgrade infrastructure, and deliver local campaigns and enforcement. These grants will usually support smaller scale projects.

Small scale clean-up grants will be available for projects that link to and support local and regional litter strategies.

Stream 2: Strategic development grants

Funding will be available to support stakeholders to develop strategic approaches and build capacity to deliver longer-term litter prevention projects. Projects in this stream will be initiatives that engage stakeholder networks and create business cases and approaches to link up and boost litter prevention action across whole regions, communities, industries or sectors. These projects aim to build organisational capacity to deliver litter prevention outcomes that can be sustained well into the future, using the NSW EPA's Own it and Act Strategic Framework.

Stakeholders that develop effective strategies will be well placed to access more flexible funding opportunities under Stream 3.

Stream 3: Strategic implementation grants

Funding will be available to support stakeholders to implement litter prevention strategies that have been developed for whole regions, communities, industries or sectors. This stream will provide greater autonomy and flexibility for stakeholders that have begun partnering with the NSW EPA and effectively engaged stakeholder networks to support NSW litter reduction targets and objectives.

This Stream will aim to support partners with longer-term funding models and flexibility to deliver agreed Litter Prevention Strategies. These Strategies may be developed and endorsed by the NSW EPA through the Stream 2 grant process.

The NSW EPA will continue to support stakeholders to take ownership and act on litter prevention through collaborative litter prevention grant funding programs.

Own it and Act

The NSW EPA's **Own it and Act Strategic Framework** is available on the EPA website and provides a foundation to improve two-way learning and shared litter prevention outcomes with key stakeholders across the State. The NSW EPA's vision is that this framework will help develop new leaders in Litter Prevention and help the EPA build strong relationships with key stakeholders, supporting them to prevent litter for the long term.

Approach 6: Targeted programs to stop litter dispersal

Why do we need targeted programs?

The NSW EPA will deliver several targeted programs to deal with specific items, practices and pathways that lead to the dispersal of litter into the wider environment. These programs will implement tailored approaches that integrate all elements of the Strategy to target identified problems.

What targeted programs will be delivered?

Operation Clean Sweep

In recent years, litter prevention has begun to focus on items smaller than 5 millimetres and measured down to nanometre scales; these are called 'microplastics' if they are made of plastic, or sometimes 'micro debris' if the material is unspecified. Nurdles, which are made up of plastic compounds and petrochemicals, are a common type of microplastic found in the environment. They originate as pre-production plastic resin pellets, flakes, powders or recycled chips, which manufacturers melt down to create plastic products. Nurdles consist of various types of plastic compounds and petrochemicals.

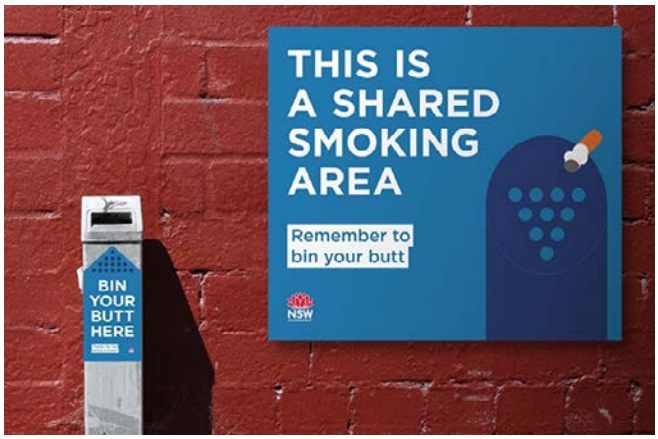
Under Action 5 of the NSW Plastics Action Plan, the NSW Government has committed $500,000 to reduce nurdles escaping into the environment. This action aims to help plastic manufacturers, transporters and recyclers to improve their systems of shipping, handling, storing and using nurdles in ways that prevent spillage and pollution of waters.

It will include guidance for councils on best practice nurdle regulation and management, similar to the guidelines provided by **Operation Clean Sweep** – an international program delivered under licence in Australia by the Tangaroa Blue Foundation.

Microplastics are a rapidly emerging focus for government and the community, driven partly by the increasing availability of data, including through the Australian Microplastic Assessment Project. Incorporating Operation Clean Sweep within the Strategy provides an opportunity to tackle an important subset of microplastics and broaden the scope of the NSW Litter Prevention Program. This will support targeted action to prevent microplastics escaping into the environment and leverage existing efforts in regulation and enforcement to strengthen best-practice management of nurdles by the plastics industry.

Cigarette Butt Litter Prevention Program

The NSW Government has developed a leading Cigarette Butt Litter Prevention Program that runs in parallel with the wider Litter Prevention Program. It uses a combination of the seven approaches of the Litter Prevention Framework, bolstered with behavioural analysis to target the most-littered item across the world – butts. Interventions and campaigns are based on extensive research to understand how and why smokers litter and are tailored to educate smokers and encourage proper disposal. A range of resources are available for local land managers to use in smoking areas, and this will be supported by a targeted grants program.



Cigarette butts are **made from plastic** not from cotton, wood or paper.

As the program evolves, it will integrate the new Litter Prevention Partnership Strategy, working with partners such as NSW Health, to build long-term ownership and action on butt litter prevention. The NSW EPA will work with environmental agencies at various levels to develop a product stewardship framework to enhance the management of this complex litter issue. Lessons from the growth of this program, such as market research and stakeholder involvement, will be applied to the emerging issue of vaping devices.

Streets to Sea – Catchment-based approaches to litter prevention

The EPA has supported catchment-based litter prevention strategies through litter grants, including in the Cooks River and Greater Sydney Harbour catchments. Building on this work with community and council partners, the EPA will explore opportunities to develop a coordinated approach with government and stakeholders to tackle litter from Streets to Sea.

33% of the world's turtles and **43%** of the world's seabirds **have swallowed plastic**

The Streets to Sea approach co-opts existing action that keeps urban spaces litter-free, to also prevent litter getting into our waterways where it accumulates on shorelines. The EPA uses the Key Littered Items Study (KLIS) – which samples litter found in urban estuaries – to monitor progress towards NSW Government litter targets. This data is corroborated by the Australian Litter Measure (AusLM), which measures litter found at nearby locations with different land uses, such as retail, residential or industrial areas.

When considering litter that has dispersed from urban areas into wider environments such as estuaries, rivers and coastal waters, it is relevant to include drainage and stormwater infrastructure in our thinking (Figure 3). The monitoring data of KLIS and AusLM can be linked with targeted research into how litter is transported by rainwater runoff through urban landscapes into waterways. This approach can inform targeted and cost-effective catchment management that reduces these flows of litter.

The NSW EPA will establish a cross-government working group to develop and implement the Streets to Sea approach.

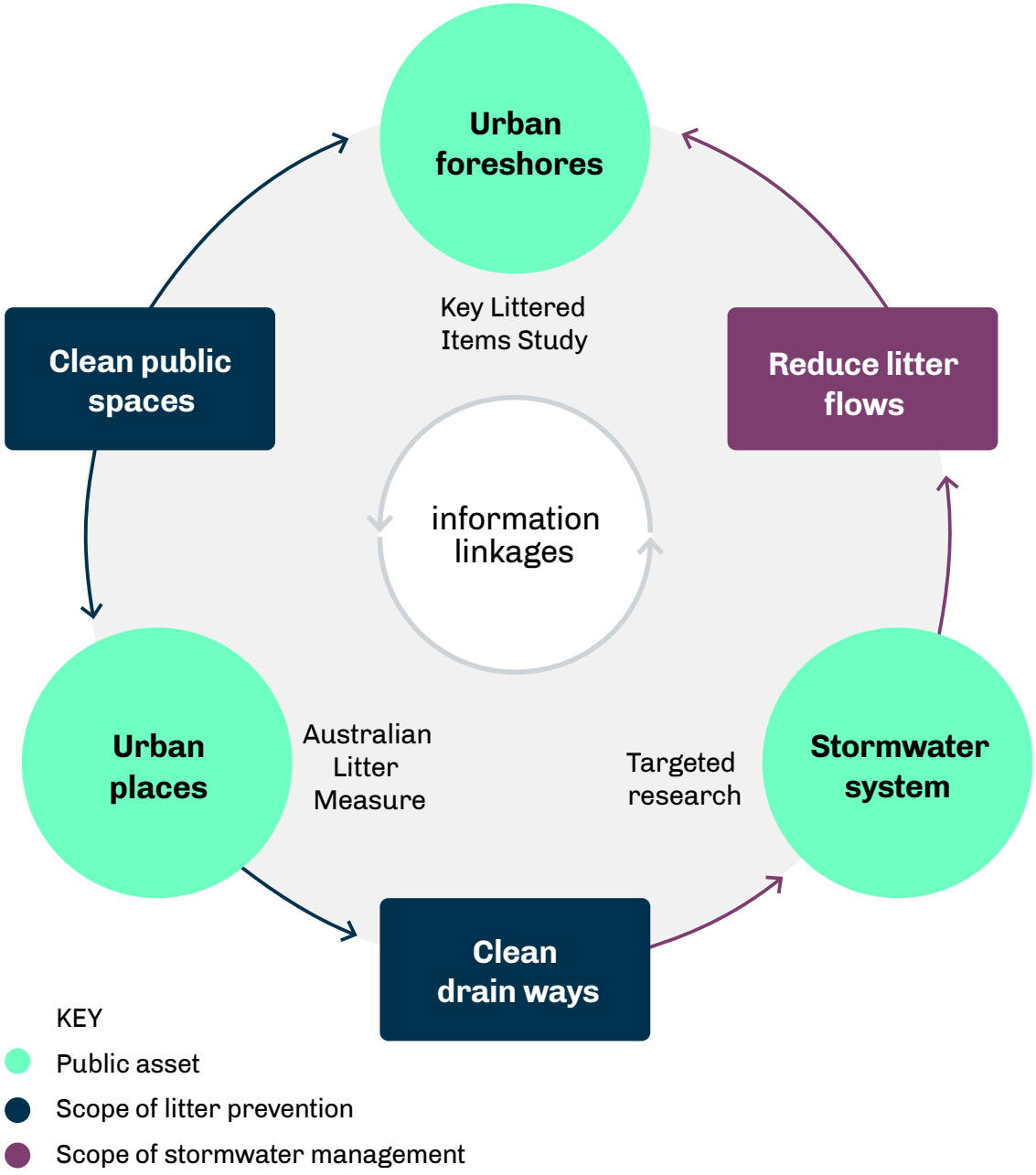
CASE STUDY:

Cooks River Litter Prevention Strategy

The Cooks River Litter Prevention Strategy (LPS), led by the Cooks River Alliance in partnership with the River Canoe Club of NSW, sets out an agreed approach to reduce the amount of litter getting into the Cooks River by 50% by 2025. It aims to use data from the AusLM to identify hotspots across the catchment and engage local communities and businesses in litter prevention initiatives. The effectiveness of this approach will be monitored with data from the KLIS, which measures litter at two sites on the Cooks River.

Litter items collected in mangroves.

Figure 3: Integrating data on sources and flows of litter



Approach 7: Monitoring, evaluation and research

Why do we need to conduct research, and monitor and evaluate our work?

Anyone who tackles litter needs to know what works, what does not work, and why. Regular research and monitoring help the EPA to ensure NSW's litter laws and prevention strategies are working well, to better protect the community and the environment.

NSW Litter Prevention Program 2012–21 Evaluation

An independent evaluation has been completed of the Litter Prevention Program delivered from 2012-21 under Waste Less, Recycle More. The evaluation found the program has been effective in delivering key outcomes with favourable ratings across all program areas and key pillars of activities. Based on the National Litter Index (NLI) data the Program has contributed to the 43% litter reduction in NSW since 2013–14. The final report is available on the EPA website: **Litter Prevention Program 2012–21 Evaluation (PDF 15MB)** on the EPA website.

How will we monitor, evaluate and research?

The EPA Litter Data Framework

The EPA uses an integrated data framework to measure and monitor litter in NSW and to better deliver litter prevention projects, programs and policies.

The EPA Litter Data Framework provides an overview of litter data, the purpose of different data sources and programs, how they are best used, how they relate to one another, and their key limitations. It aims to ensure people use litter data in ways the data is designed for or intended.

Litter leakage research

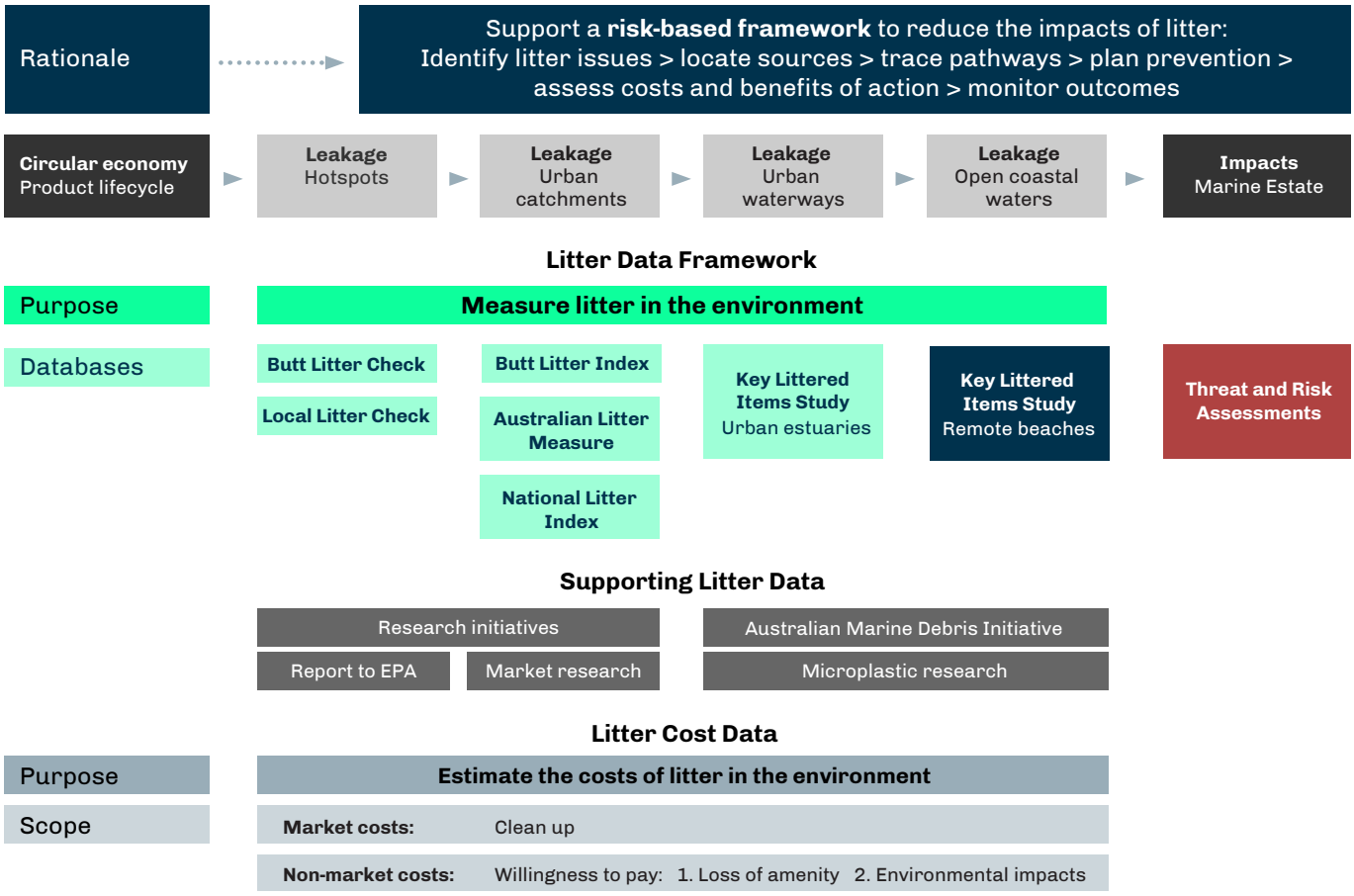
The NSW EPA is identifying gaps to capture litter leakage from all sources and at all stages of the litter journey. The NSW EPA has begun research into leakage from waste collection services and will expand research to look into other sources of litter to plan and inform future targeted programs.

This framework sets out how NSW will track progress towards key targets. At the heart of the framework are six datasets that measure litter and related data, such as littering behaviour, in the environment. These data can be used to assess changes to the quantities, types and distribution of litter found in the litter stream in NSW. This informs monitoring and evaluation and helps to ensure the ongoing relevance of the approaches taken to achieve litter prevention objectives.

The dataset used to monitor progress to the NSW Litter Prevention Targets is the Key Littered Items Study. Other data, such as the Australian Litter Measure or the Local Litter Check, help to corroborate or to refine this information, giving more detail that allows users to understand the sources and pathways for litter as it gets into the environment. The overarching objective for the EPA Litter Data Framework is that litter prevention approaches are effective in reducing litter and littering behaviours in NSW.

Litter data counts.

Figure 4: The EPA Litter Data Framework in context.



Evaluation and Reporting

The NSW EPA has developed integrated litter prevention monitoring and evaluation to measure the success of activities against this Strategy. This approach will use multiple evaluation methods to monitor progress on delivery of our objectives.

Key monitoring and evaluation elements include:

- annual litter reporting using KLIS and AusLM
- biennial NSW Litter Report
- biennial Butt Litter Index
- EPA Annual Reporting processes
- program evaluations
- campaign evaluations and cost-benefit analysis
- grant program evaluations.

Research

We commission research to better understand the drivers and impacts of litter and how to deliver effective programs and strategies. We work with State and local government, universities and community organisations, and others interested in taking evidence-based action, to find out how their efforts can add to our store of reliable data.

Key pieces of research include social research, cost of litter studies, marine debris threat and risk assessments, and the effectiveness of enforcement strategies. This research is available on the NSW EPA website – search for 'litter research'.

Research into waste leakage

The NSW EPA will complete a new study into the drivers of litter. This will involve a detailed exploration into how waste leaks into the environment. It will cover littering behaviour (including deliberate v accidental), overflowing bins, bin scavenging, animals, weather and waste collection services.

Litter data collection.

Appendix A: Understanding litter

What do people think of litter?

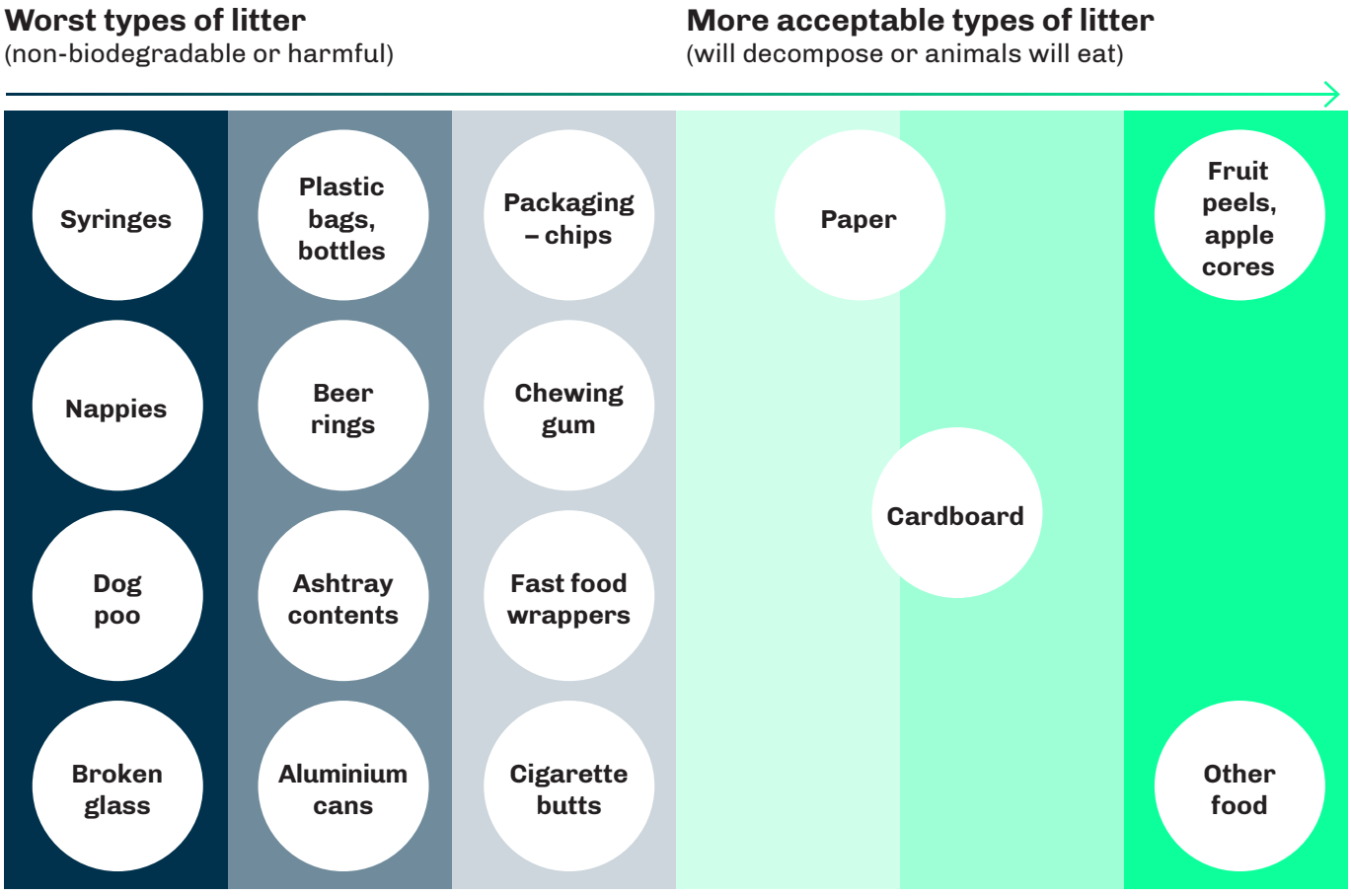
We regularly undertake statewide surveys and social research about litter. These show that:

- 90% of people think littering is socially unacceptable
- 92% agree litter damages the environment
- 88% agree litter wastes resources that could be recycled
- 86% think litter is an important issue for them.

Clearly, the NSW community is aware of litter issues and strongly believes littering is unacceptable. This is informing our consistent actions.

Social research from NSW, Australia and overseas all show we have different ideas about what litter is. People tend to be more accepting of organic litter such as food, cardboard and paper. Syringes, broken glass, nappies and dog poo are viewed as being the worst types of litter (Figure 5: Worst to more acceptable litter types.).

Figure 5: Worst to more acceptable litter types



In 2021, research into the indirect cost of litter and illegal dumping was conducted through a willingness-to-pay study jointly commissioned by the EPA, Sustainability Victoria and Queensland Department of Environment and Science. Drawing on a survey of 3,017 households, this put a dollar figure on how respondents felt about seeing different kinds of litter and illegal dumping in different public spaces. The study showed plastic items were the most disliked in the mind of the public, mainly because they are the most frequently noticed. As a type, hazardous or dangerous items were more disliked but seen less frequently than plastic, so did not rate as highly as an overall cost.

Regarding the types of public space in NSW that respondents were most willing to pay to keep clean, beaches and waterways were the most valued. National parks, bushland and forests were the second-most valued. The two most highly-rated motivations for placing value on reducing litter and illegal dumping were:

1. "making the places I visit more pleasant and natural"
2. "reducing harm to wildlife and plants".

For respondents, the twin benefit of litter reduction is preserving the visual amenity of public open space and protecting the environment from harm.

Why do people litter?

Research shows there is no typical litterer. The same person may litter in one place but not in another. Their behaviour can change with the same piece of litter. For example, a person may walk 30 metres to put a plastic cup in a bin at a park or the beach, but would leave the same item under the seat at a football stadium.

Up to **50 million plastic bags** are littered in Australia every year

Table 4: Littering behaviour cues

Behaviour cue	Outcomes
Type of item	People are most likely to litter cigarette butts, probably because there is no bin nearby or butts are seen as 'only small'
Type of place	People are more likely to litter in places such as bus stops or where they think they will not be seen
Cleanliness of the place	People are less likely to litter somewhere that is clean, with well cared-for street furniture and bins, and no graffiti or vandalism
Bins	People are less likely to litter if there is a bin nearby, however they are more likely to do so if the bin itself is dirty
Signs	People are more likely to put waste in the right place if there are clear, consistent and relevant signs nearby
Knowledge	People may be less likely to litter when they understand where their litter ends up
What others are doing	People will litter if others do. For example, people may leave litter piled next to a bin or under stadium seats because others have

Appendix B:
How do we measure litter?

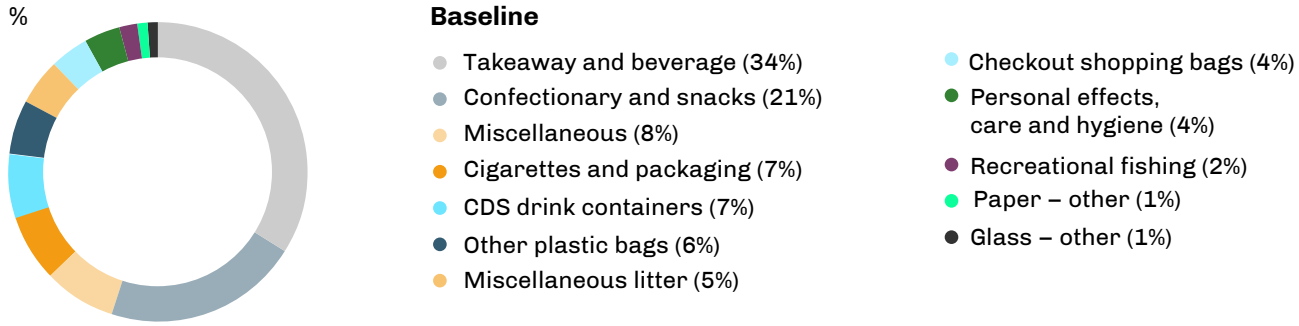
NSW uses a range of data sets to measure litter. These are detailed in the **EPA Litter Data Framework**. Previously, NSW relied on the National Litter Index, which tracked previous targets. Now, the Key Littered Items Study (KLIS) – which is central to the NSW Litter Prevention Strategy – is used to track targets set out in the Waste Strategy.

Annual litter data and the most recent progress is published on the EPA website – search for 'litter data and targets'.

Baseline and targets

The Waste and Sustainable Materials Strategy 2041 and the NSW Plastics Action Plan have set two litter reduction targets for NSW. The baseline for these targets is the combined eight quarterly counts across 2018 and 2019 using the KLIS.

Figure 6: Baseline litter composition by category (items) 2018 and 2019 data



Progress towards targets

Target 1: 30% reduction in plastic litter items by 2025

In 2020–21 plastic litter items had reduced by 35% since the baseline year (2018–19).

This result suggests the 2025 target has already been achieved. However, a single year's figures should be treated with caution, particularly as COVID-19 lockdowns may have reduced littering. Long-term trend data will provide a more accurate picture.

Target 2: 60% reduction in all litter items by 2030

In 2020–21 all litter items had reduced by 35% since the baseline year (2018–19).

As noted above, long-term trend data is required to provide a more accurate assessment of progress towards his target.

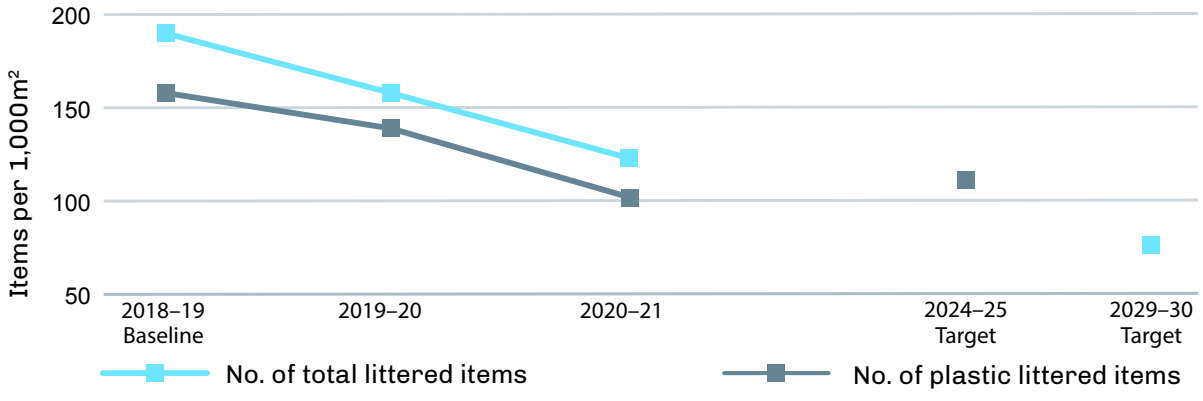
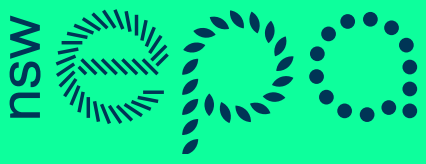



Figure 7: Progress towards NSW litter targets: litter items per 1000 m²