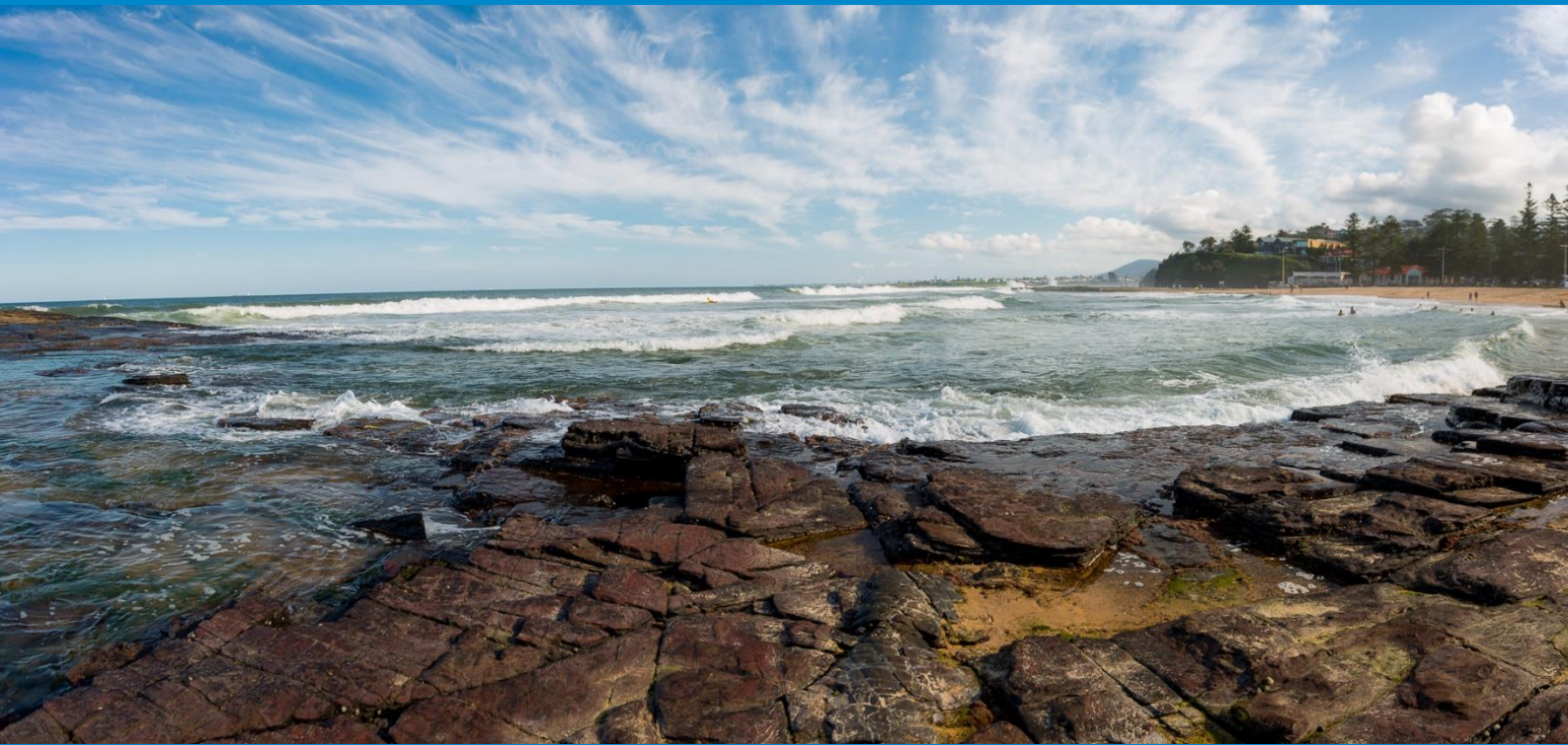


Regulatory Assurance Statement

2017-18



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Cover: Panoramic shoreline rockpools with moss foreground. Headland background. Wide shot. Austinmer. Caz Nowaczyk/EPA

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ISBN 978 1 925790 96 2
EPA 2018P1238
November 2018

Printed on environmentally sustainable paper

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1. Introduction

1.1 Purpose

On an annual basis, in accordance with the *Protection of the Environment Administration Act 1991*, the Board of the NSW Environment Protection Authority (EPA) provides the Minister with a statement that contains or addresses the following matters:

- a) an assessment of the success of the Authority in reducing risks to human health and in preventing the degradation of the environment and whether the level of environmental protection achieved by the Authority is satisfactory in comparison with other Australian jurisdictions,
- b) an assessment of the performance by those industries regulated by the Authority in reducing risks to human health and in preventing the degradation of the environment, and the impact that those industries have on the environment,
- c) recommendations for improving the Authority's performance, and the performance of the industries regulated by the Authority, in relation to the matters referred to in paragraphs (a) and (b),
- d) such other matters as may be prescribed by the regulations.

Protection of the Environment Administration Act 1991, section 16 (3)

1.2 About the EPA

In carrying out its role of protecting the community and the environment of NSW, the EPA aims to:

- be the leader in protecting the air, waterways, land and health of the NSW community for the future
- partner with communities, government and business to reduce impacts on the environment
- be a protector, holding people and organisations to account through licensing, monitoring and regulating their interactions with the environment.

1.3 About this statement

In this statement the EPA Board reports on the EPA's management of key environmental issues in comparison with other jurisdictions, its regulatory framework and the results of internal and external reviews.

The EPA Board monitors the EPA's performance against the measures in the EPA Strategic Plan 2017–21 quarterly. Assessments of the performance of the EPA against these measures can also be found in the EPA Annual Report 2017–18.

2. Reducing risks to human health

This section examines the EPA's response to contaminants in our environment that could have impacts on human health. The EPA aims to either remove these contaminants or reduce people's exposure to them. In the past year the focus has been on per- and poly-fluorinated alkyl substances (commonly called 'PFAS'), historically contaminated sites (known as legacy sites), asbestos, lead, drinking water quality and air quality.

2.1 PFAS

Why is this issue important?

The PFAS family of chemicals has been used in many industrial and household products, such as firefighting foams, cookware, waterproof fabrics and packaging. The very stability that makes them useful also means they are highly persistent and accumulate over time in the environment and in the human body. Several specific PFAS chemicals used in firefighting foams have contaminated groundwater near sites where these foams have been used.

How has the EPA managed this issue?

The EPA is the lead agency for the NSW Government in PFAS response and works collaboratively with experts, the Commonwealth and other NSW government agencies to provide informed technical, policy, stakeholder engagement and community advice on PFAS-contaminated sites.

The [EPA PFAS Investigation Program](#) focuses on sites including airports, firefighting training facilities and some industrial locations where there has been historical use of PFAS-containing firefighting foams, and where there are identified exposure pathways that may increase people's contact with PFAS chemicals, such as through bore water and groundwater usage.

Using a precautionary approach, the EPA has fast-tracked assessment of several priority sites where PFAS has been used extensively, organising for sampling and analysis to determine the extent of possible contamination. The EPA's approach has been to speak with affected communities to discuss the results and identify ways they may have come into contact with PFAS, particularly through water use. The EPA then consults with the NSW PFAS Taskforce, which was established by the NSW Government. The taskforce consists of technical representatives from NSW agencies. It informs and guides the EPA's response to potential impacts from PFAS legacy contamination, and provides tailored precautionary advice to local communities.

What are other jurisdictions doing?

In November 2016, Environment Ministers agreed that all jurisdictions have a critical role to play in developing nationally consistent standards for PFAS. This process has been coordinated by the Victorian Environment Protection Authority. The PFAS National Environmental Management Plan (NEMP) provides a nationally consistent approach to the environmental regulation of PFAS in Australia. Along with Victoria and the Commonwealth, the NSW EPA is actively involved in the approach to PFAS and continues to raise this issue in Heads of Government meetings.

What happens next?

The EPA is working collaboratively with the NSW PFAS Expert Panel, the NSW PFAS Taskforce, the Commonwealth and other NSW government agencies to provide informed technical, policy, stakeholder engagement and community advice on PFAS-contaminated sites.

2.2 Contaminated sites

Why is this important?

Contaminated sites can pose a risk to human health and the environment. Unless they are effectively managed, they can be a source of ongoing pollution of aquifers and waterways, soils and air. This can result in human health impacts and habitat degradation, hamper beneficial use of natural resources and land, and threaten water security.

How has the EPA managed this issue?

Backlog Program

In 2008, amendments to the *Contaminated Land Management Act 1997* (CLM Act) established objective criteria and more stringent obligations for land owners and polluters to notify the EPA of contamination. This caused a significant increase in the number of notifications of contamination; the majority of these related to petroleum storage areas, such as at older or disused petrol stations, and marinas (see 4.3 Underground petroleum storage systems).

In 2014, the EPA established an assessment program, with extra resourcing to accelerate clearance of the backlog. This has been one of the NSW Government's priorities. Assessment of the backlog of approximately 830 notified sites was completed in December 2017. Of these, 19 sites have been determined as requiring regulatory action under the CLM Act.

State-wide planning approach to remediation

When land is proposed for rezoning or redevelopment, contamination that is not considered to be significant enough to warrant regulation by the EPA under the CLM Act is managed through the planning framework by councils and other planning authorities.

The State Environmental Planning Policy for the Remediation of Land, currently known as SEPP 55, and the associated Managing Contaminated Land Planning Guidelines provide the planning framework for contaminated land.

The EPA has been working with the Department of Planning and Environment on revision of the SEPP and Planning Guidelines. An Explanation of Intended Effects for a new Remediation of Land SEPP, as well as the draft revised Planning Guidelines, was exhibited in early 2018.

The EPA is continuing to work closely with the Department of Planning and Environment to address key issues and concerns raised in the feedback received during consultation. This is with a view to the Department of Planning and Environment finalising the new SEPP and updated Planning Guidelines within the next 12 months.

Improving public access to information

The EPA has reviewed the information available on its webpage to ensure it is accessible and easy to navigate. Several changes were made as a result of the review. These included:

- improving the format of the list of notified sites so it can be downloaded
- sending out regular CLM Updates to registered subscribers and making these easy to find on the landing page for non-subscribers
- starting work to present data in a map format to enable the public to search for and view information by location.

What are other jurisdictions doing?

NSW and Western Australia are the only states that have stand-alone legislation for managing land contamination. Victoria has recently passed a new *Environment Protection Act 2018* following a review of its performance. The new legislation incorporates many of the same requirements that exist in the NSW CLM Act, for example implementing a duty to report contamination. Victoria and the

Northern Territory are also working on expanding the information available via publicly accessible portals or via online maps.

What happens next?

In late 2017, the NSW Government announced that it was dedicating an extra \$23.5 million over four years to assist the EPA to better manage contaminated land. This funding is enabling implementation of the government's priority actions to improve management of contaminated land, illegal dumping and asbestos (see 2.4). The actions include the recommendations from recent external reviews of contaminated land management conducted by Professors Mark Taylor, Emeritus Professor Chris Fell AM and Emeritus Professor Stephen Leeder AO and the Lead Expert Working Group. More than 38 of the 75 external review recommendations that were supported have already been implemented, and most of the others are well underway.

The funding also provides for \$1.4 million per annum for the Council Regional Capacity Building Program 2018–21. Under this program, NSW Regional Organisations of Councils and groups of three or more regional councils can apply for funding to employ an officer with expertise in contaminated land. The program is designed to provide regional councils with the resources and expertise required to develop or improve their contaminated land management framework and to assist with the handover of the Underground Petroleum Storage Systems Regulation.

The EPA has established an Emergency Sampling and Response Team that can carry out sampling and assessment of emerging contaminants. The EPA is also working to establish a series of expert panels across key subject areas.

2.3 Managing emerging contaminants/chemicals

Why is this important?

An emerging contaminant/chemical is a substance that may have been in use for some time and has more recently been suspected of posing risks to human health and the environment. A contaminant may become emerging due to new information about its ability to bioaccumulate or persist in the environment or due to human health concerns. It may also be that new detection methods have identified its presence where it had not been anticipated. In many cases there may not be any published health standards associated with these contaminants and their impacts on the environment are unknown. Because of this, often these contaminants are not regulated.

How has the EPA managed this issue?

The EPA is exploring new approaches to better manage industrial chemicals in NSW. Some of the challenges include the lack of environmental and human health data for many existing chemicals in use in Australia and the need for environmental monitoring programs to establish where risks may be present.

The EPA is working with Elemental Group Australia (EGA) to develop a Proof-of-Concept model to prioritise 200 industrial chemicals likely to be of most interest in NSW.

What are other jurisdictions doing?

The *Contaminated Sites Review Final Report: Review of the NSW Environment Protection Authority's Management of Contaminated Sites* by Professor Mark Taylor was published in 2016. It recommended that the NSW Government should engage with the Commonwealth Government and consult with other relevant agencies and scientific experts to initiate the process of developing national guidance on emerging contaminants/chemicals (other than PFCs). These emerging contaminants/chemicals may include those listed on the Stockholm Convention (on Persistent Organic Pollutants).

The Heads of EPAs (HEPA) network has begun work on options for prioritising and assessing emerging contaminants. The NSW EPA has been working closely with EPA Victoria in preparing a paper on emerging chemical program options. The EPA is also working with other jurisdictions in the

development and adoption of a National Standard for the Environmental Risk Management of Industrial Chemicals.

What happens next?

Assessment of the 200 chemicals on the prioritisation list is expected by the end of 2018, and will include training of EPA staff. The EPA is developing a decision-making framework to complement the outputs of the chemical prioritisation framework. This will assist with decision making about the management of emerging chemicals.

2.4 Asbestos

Why is this issue important?

When asbestos fibres are breathed in they may remain deep within the lungs, causing inflammation, scarring and some more serious asbestos-related diseases. Illegally dumped asbestos-contaminated waste and asbestos sheeting is a significant issue for members of the public, local councils and the EPA. Dumping occurs on both public and private land. It poses a threat to human health, and the cost to clean up asbestos-contaminated waste is often significant.

Between the 1950s and 1970s, industrial building materials company James Hardie disposed of asbestos waste at multiple sites around Western Sydney, largely in the City of Parramatta local government area. Other local government areas with potentially affected sites include Cumberland, Liverpool City, Fairfield City and Wingecaribee councils. Between August 2016 and April 2017, during investigations that were undertaken by the City of Parramatta Council and partially funded by the Heads of Asbestos Coordination Authorities (HACA), friable asbestos was identified in the backyards of several houses in Granville.

How has the EPA managed this issue?

In May 2017, the HACA working group completed a rapid review of potentially affected sites, and prioritised at least 35 individual properties in Harris Park and Granville for action. It also carried out door knocking and letterbox drops to about 200 residents within and around assessment areas, and two community drop-in sessions. The review and community engagement formed the preliminary phase of the current reassessment of James Hardie legacy sites. This ongoing reassessment is being led by the EPA and is intended to inform the development of long-term management options for these sites.

Since July 2017, the EPA has been leading a soil sampling program at residential properties where the existence of asbestos in the soil is suspected. Free sampling has been offered to a number of property owners and strata committees. Where asbestos has been found in shallow soil, free interim management measures (such as capping with new soil and turf) has been introduced. Interim management measures are intended as a short-term solution to reduce the immediate risk of exposure until long-term management options are developed.

Through the NSW Illegal Dumping Strategy 2017–21, launched in February 2018, key actions have been identified to improve understanding of the motivations driving illegal dumping of asbestos waste. These include researching the behavioural drivers of householders when doing renovations involving asbestos and when receiving fill. This information has helped to inform the draft NSW Asbestos Waste Strategy 2018–22 and education program for householders.

Additionally, through the strategy the EPA supports local councils, public land managers and Local Aboriginal Land Councils to deal with illegal dumping hotspots through the Combatting Illegal Dumping: Clean-up and Prevention Program and the Aboriginal Land Clean-up and Prevention Program. So far, \$6.65 million in funding has been awarded to 115 relevant projects. These projects are funded under the Waste Less, Recycle More Initiative.

The EPA's WasteLocate is an online system, launched in the previous financial year, to track the movement of asbestos waste (and waste tyres) in NSW. Asbestos transporters and facilities receiving asbestos waste in NSW weighing more than 100 kilograms or consisting of more than 10 square

metres of asbestos sheeting in one load must track and report this waste to the EPA using WasteLocate.

The Environmental Trust has provided annual emergency funding in support of the Illegal Dumping Asbestos Clean-up Program (IDACUP). The funding from 2018-19 has been incorporated into a more comprehensive clean-up program, which includes asbestos and other contaminants.

The EPA was also successful in a major prosecution for asbestos offences, with Mr Dib Hanna sentenced to a landmark three years imprisonment (see 5.1 for further details). The NSW EPA's penalty notice amounts are Australia's toughest, with fines of up to \$15,000 for corporations and \$7,500 for individuals.

What are other jurisdictions doing?

The Australian Government National Strategic Plan for Asbestos Management and Awareness 2014–18 establishes a framework for states and territories to work cooperatively and independently to address asbestos issues. Jurisdictions across Australia have endorsed the plan, and established programs and measures for management and future removal of asbestos in the built environment. Extensive laws across Australia regulate the whole lifecycle of asbestos: from prohibiting production, importation and use through to safe management, removal, handling and disposal. Victoria has set up a Victorian Asbestos Eradication Agency, which is aimed at providing the state with a long-term plan for the removal of asbestos from government-owned buildings. The [National Asbestos Profile for Australia \(2017\)](#), a report by the Australian Government Asbestos Safety and Eradication Agency, provides a summary of approaches at local, state and territory, and federal level.

What happens next?

The EPA has released for consultation a draft NSW Asbestos Waste Strategy 2018–22. The strategy is a multi-faceted approach to protect and maintain a safe and healthy community and environment by ensuring the proper management of asbestos waste. This strategic approach will use a range of solutions to address poor asbestos-management behaviours. The strategy looks at increasing the convenience of disposing of small amounts of asbestos, improving asbestos regulations, reducing the costs of disposing of asbestos, increasing awareness around asbestos handling and disposal and improving the upfront controls on asbestos. The strategy complements the NSW Illegal Dumping Strategy 2017–21 and new construction and demolition waste reform and standards.

The EPA has overseen the development of a Multi-Agency Asbestos Awareness and Education Training Program. This trains staff in how to identify material that might contain asbestos, undertake a risk assessment, control and manage risk to protect personnel and the community, and understand other important aspects of the NSW Asbestos Blueprint. The training is available to EPA staff and staff in other agencies.

2.5 Lead contamination

Why is this issue important?

While people of all ages may be harmed by exposure to lead, the risks are greatest for pregnant women and children 5 years and younger. Lead can harm many organs and bodily functions, with elevated blood-lead levels giving rise to such harmful effects as anaemia, kidney problems and neurological or developmental effects, particularly in children.

Areas of concern include the following:

- environmental lead contamination in Broken Hill from outdated mining practices dating back to the 1800s is causing elevated blood-lead levels in children. An elevated blood-lead level is one that is greater than 5 micrograms per decilitre.
- heavy metal contamination, including lead, is present in roof dusts and soils around the Port Kembla area. Sources of lead contamination have included the Port Kembla industrial complex, motor vehicle (leaded petrol) emissions and lead-based paints.

- legacy lead contamination in North Lake Macquarie arose from the former Pasminco lead and zinc smelter that closed in 2003. There is significant community concern about exposure to lead dust in soils at residential properties surrounding the smelter.
- lead contamination is present in soils in Newcastle and Sydney's inner west. In Newcastle, the presence of lead contaminants in urban areas largely reflects its industrial history. In Sydney's inner west, the presence of lead in soils reflects the land's previous use for industrial activities, the historical use of lead-based paint, and contamination from motor vehicle emissions when leaded petrol was used.

How has the EPA managed this issue?

The Broken Hill Environmental Lead Program Steering Committee oversees the direction and strategy of the program to undertake research and monitoring at Broken Hill to address the issue of elevated blood-lead levels in local children. The program has a focus on Aboriginal children, as 78% of Aboriginal children aged 0–4 years had blood-level levels above 5 micrograms per decilitre when the program commenced in 2015.

In 2017, in Broken Hill 221 Aboriginal children had their blood-lead levels tested. In 2017, the average blood-lead level for all children (1–4 years) at Broken Hill was 5.7 micrograms per decilitre, slightly less than the 2016 figure of 5.9 micrograms. At Broken Hill there was also an increase in the number of children (1–4 years) with blood-lead levels below 5 micrograms per decilitre; up from 42% in 2016 to 46% in 2017.

In the Wollongong / Port Kembla area, a working group involving EPA, NSW Health and Wollongong City Council meet regularly to help prepare information and guide actions to manage lead contamination. Actions to date have included:

- promotion of lead-awareness brochures developed with the Lead Education and Abatement Design Group as part of a NSW-wide lead-awareness campaign
- updates to relevant Development Control Plans
- suggested changes to Council's Land Information Register, which contains relevant property information
- reviews of lead management strategies undertaken in the late 1990s and 2000s.

In North Lake Macquarie, the EPA established a Lead Expert Working Group (LEWG) to consider actions to date and future actions to reduce lead exposure in local children in the area. In December 2016, the LEWG delivered its final report and made 22 recommendations on managing residual lead contamination in the area. The EPA and Lake Macquarie City Council have responsibilities for implementing recommendations from the LEWG report, as do, to a lesser extent, NSW Health and the Department of Planning and Environment.

Lastly, Macquarie University has conducted two research projects assessing soil contamination in urban areas of Sydney's inner west and Newcastle. These studies found lead to be an element of potential concern. The EPA has developed a series of programs to address legacy lead contamination and it actively promotes the simple precautions people can take to minimise exposure to lead. Programs include a community awareness campaign on lead safety, which is being undertaken with a focus on lead paint. The EPA engaged with homeowners and renovators at the Sydney Home Show in October 2017 and May 2018 to provide free lead-test kits and raise awareness about lead safety.

What are other jurisdictions doing?

Outside of NSW some key programs include the:

- Clean-up and Recovery Project, coordinated by the West Australian Government, for the management of fugitive (unintended) emissions from Esperance Port
- Lead Implementation Program, coordinated by the South Australian Government, for the management of pollution from the Port Pirie Smelter
- Lead Pathways Portal, coordinated by Mount Isa Mines in Queensland, with a focus on lead in Mt Isa.

Programs and experience from other states, historic programs within NSW and advice from international organisations have provided a wealth of knowledge that, collectively, has shaped the current lead management programs in NSW. For instance the Lead Implementation Program for Port Pirie provided learnings that were considered when developing the Broken Hill LeadSmart Program. The University of Queensland carried out a literature review for the Pasmenco Lead Expert Working Group Report on Managing Residual Lead Contamination in North Lake Macquarie. The literature review included a summary of Australian and international best practices to manage lead and human exposure. The fact sheets *Lead: Your Health Around the Home* and *Lead: Gardening and Home Renovations* were prepared with reference to advice published by the World Health Organization.

What happens next?

The Broken Hill Environmental Lead Program will continue to take an integrated approach to tackling the lead issue under its three priority areas, being:

- research and monitoring
- remediation
- consultation, education and funding.

Ongoing research and monitoring will identify residual contamination, prioritise intervention practices and target areas where sources of lead can be eliminated from the environment and/or stabilised through remediation. The Broken Hill Environmental Lead Program is funded until 30 June 2020.

In Wollongong, through discussion with the LEWG, the EPA has committed to a review of relevant published environmental literature relating to the Wollongong local government area on heavy metal contamination and measures to manage human exposure and prevent human health risks. This report will provide an evidence base that guides future decision making and identifies any gaps in knowledge. Tenders for the project are expected to be called after the current 2017–18 reporting period.

In November 2017, the NSW Government allocated \$1.8 million over four years to the implementation of recommendations in the LEWG report. The EPA is implementing the LEWG recommendations it is responsible for, such as investigating the impacts of the Pasmenco smelter slag on water quality in the Lake Macquarie region and the establishment and operation of a state-wide Lead Strategy Group. The EPA will work with other agencies and Lake Macquarie City Council, which also has responsibilities to implement LEWG recommendations.

The EPA will continue with its community awareness campaign on lead safety. A preventative programs unit has been established within the EPA to work on the development of a state-wide lead strategy, which will underpin all future programs and campaigns aimed at lead awareness.

2.6 Air quality

Why is this issue important?

Emissions or pollutants from industrial processes, transport and bushfires can impact air quality. Air pollutants can affect human health; particularly vulnerable groups are children, older people, pregnant women and people with pre-existing health conditions.

There has been considerable community concern about air quality in the Hunter region related to coal mines, and in Sydney due to the increasing number of motorway tunnels in operation, under development and planned for the region. EPA responses to these two issues are outlined below (see also 4.6 Review of coal-fired power stations).

How has the EPA managed this issue?

Dust Stop

From 2012 until 2017, the EPA implemented its Dust Stop Pollution Reduction Program to ensure that NSW coal mines were using best practice measures to minimise dust emissions. The EPA estimates that the program reduced annual emissions of PM₁₀¹ from mine haul roads by 20,000 tonnes and from wind-exposed areas of the Hunter Valley by 2,000 tonnes. Despite these improvements, elevated dust levels continued to be emitted from Hunter Valley mines during periods of adverse weather. During 2017–18, the EPA, with support from air-quality experts in the Office of Environment and Heritage (OEH), trialled a dust-risk forecasting system in the Hunter Valley. This system predicted days when mines would need to take extra precautions to manage dust. The trial results are being analysed so an effective strategy can be developed to reduce mine dust emissions at critical times.

Regulating air emissions from tunnels

In 2018, the NSW Government announced a range of initiatives to strengthen the government's approach to air-quality issues in motorway tunnels. One of these initiatives is that the EPA will become the regulator of air emissions from motorway tunnel-ventilation facilities via environment protection licences issued under the *Protection of the Environment Operations Act 1997* (POEO Act). This will require the EPA to regulate and licence all new and existing tunnel-ventilation facilities. As part of this, the EPA is developing amendments to the POEO Act that will require operators of road-tunnel ventilation facilities to apply for an environment protection licence.

The EPA's regulatory oversight will be limited to air emissions from ventilation stacks. Ambient in-tunnel and portal emissions, as well as other environmental matters (especially water, noise, waste and operational issues) usually regulated by the EPA under an environment protection licence, will continue to be regulated by the Department of Planning and Environment through planning approvals.

What are other jurisdictions doing?

In Queensland, road-tunnel ventilation stack operation is deemed an environmentally relevant activity that has the potential to release emissions that impact on the environment and surrounding land uses. Permit holders must pay a fee to operate a road-tunnel ventilation stack.

In Victoria, operation of road-tunnel ventilation systems is a licensed activity for which licence holders must pay a fee to discharge emissions within specified limits.

What happens next?

It is expected that the EPA will be regulating and licensing tunnel ventilation facilities in 2019.

2.7 Water quality

Why is this issue important?

Water pollution can reduce the ability of a waterway to meet community's expectations about its uses, such as recreational, commercial and environmental uses. It can result in risks to human and environmental health and impacts on the NSW economy.

¹ PM₁₀ is particulate matter with a diameter of 10 micrometers or less

How has the EPA managed this issue?

The EPA uses the best available regulatory tools to protect the environment. In regulating water pollution, the EPA partners with other organisations, including local councils, that have specific responsibility for leading the regulation of water pollution from larger scale activities that pose a greater risk to the environment.

The EPA regulates water pollution in NSW under the POEO Act and contributes to state and national programs to reduce the impact of water pollution. The programs below are two examples.

Hunter River Salinity Trading Scheme

There are 19 coal mines and two power stations in the Hunter Valley. The Hunter River Salinity Trading Scheme prohibits any discharge of saline water from these mines and power stations during low flows. During high flows, discharges are managed using a system of tradeable credits. The success of the scheme is demonstrated by the conductivity (this is a measure of salinity) in the Hunter River. During 2017–18, the average conductivity at Singleton was 624 microSiemens per centimetre ($\mu\text{S}/\text{cm}$), well below the 900 $\mu\text{S}/\text{cm}$ average conductivity that prevailed prior to 1995, when the scheme started.

Get the Site Right compliance blitzes

In partnership with councils and the Department of Planning and Environment, the EPA participates in Get the Site Right compliance blitzes targeting poor erosion and sediment control at construction sites in the Sydney Metropolitan Area. This is part of the Swimmable Parramatta River Initiative facilitated by the Parramatta River Catchment Group.

In the November 2017 blitz, more than 900 commercial and residential sites were inspected, with results showing a 62% compliance rate; an 11% improvement on the May 2017 blitz. Over \$212,000 in fines were issued.

In the May 2018 blitz, nearly 500 sites were inspected. While larger sites held their ground in terms of compliance rates, overall compliance was down to 51%. Compliance rates improved to 75% on repeat visits. A further \$212,412 in fines were issued.

Guidelines and training

The EPA developed and implemented the Operational Guidance on Water Pollution Regulation to support the application of a credible, robust and consistent regulatory and policy framework. The guide was released during the reporting year and includes information on policy, technical and regulatory practice.

During 2017–18, the EPA also developed an online training program on regulating water pollution, which has been mandated for all operations officers. The guidance and training aim to ensure that officers assess and regulate water pollution impacts associated with new and existing development and activities in a consistent and transparent manner.

What happens next?

During 2018–19, a further module of face-to-face training will be developed in collaboration with operations officers. This will be a follow-on module from the current training and will increase skills in more complex areas of water pollution assessment and regulation. The EPA will also review discharges from licensed activities in the Sydney Drinking Water Catchment (see 2.8 for further details).

2.8 Regulation of major sewerage plant discharges

Why is this important?

Treated sewage is discharged to waterways from sewage-treatment plants. Discharges of untreated sewage from sewage-treatment systems may occur under dry and wet weather conditions, with differing impacts on water quality.

Discharged sewage, even when treated, introduces a range of pollutants into waterways. Depending on their concentration and load and the receiving environment, these pollutants may impact on aquatic environments, pose risks to human health and compromise the community's enjoyment of waterways.

The Water NSW 2016 Audit of the Sydney Drinking Water Catchment (2016 Catchment Audit) included a specific recommendation for the implementation of improvement programs in the Wingecarribee sub-catchment, targeting sewage-treatment plant discharges, based on an analysis of contribution of nutrients. The purpose of these programs was to address issues contributing to poor water quality and reduce risks of cyanobacteria (blue green algae).

Regarding sewerage infrastructure, the audit found there is evidence that some municipal sewage-treatment plants are now at capacity and that continued investment in sewerage infrastructure is required to keep risks to drinking water quality at an acceptable level. Priority should be given to upgrading the Moss Vale, Mittagong, Bowral and Berrima sewage-treatment plants in the Wingecarribee Shire Council area due to population growth.

How has the EPA managed this issue?

The EPA regulates major sewage-treatment systems through environment protection licences issued under the POEO Act. The regulated systems include large sewage treatment systems in the Sydney/Wollongong, Newcastle and Central Coast regions. The licences contain strict, legally enforceable conditions aiming to protect and minimise harm to the environment and public health from sewage discharges.

All EPA environment protection licences (including those with Pollution Reduction Programs) can be publicly viewed on the EPA Public Register. Monitoring data collected by licensees as a condition of an environment protection licence is to be made publicly available. The EPA regularly reviews compliance against licence conditions and takes action to ensure that sewage-treatment system operators are minimising impacts on human health and the environment and improving their environmental performance.

Sydney Water Corporation (Sydney Water) is the largest sewage-treatment system operator in NSW. The EPA has been working with Sydney Water on a new risk-based approach to wet weather overflow abatement in the coastal sewage-treatment systems to achieve cost-effective environment and public health outcomes. The EPA has also been working with Sydney Water and Hawkesbury City Council on a new framework for the regulation and offsetting of nutrients from sewage-treatment plants discharging into the Hawkesbury Nepean River.

The EPA has also taken regulatory action in relation to non-compliances by sewage-treatment system operators. In March 2018, Sydney Water entered into an enforceable undertaking with the EPA to pay \$200,000 to fund environmental works after two major discharges of untreated sewage and stormwater from Tunks Park, Cammeray, into Middle Harbour on 19 and 20 March 2017.

In June 2018 the NSW Auditor-General reported on the EPA's regulation of water pollution in drinking water catchments and illegal disposal of solid waste. The report identified gaps in how the EPA implements its regulatory framework for water pollution in drinking water catchments and illegal solid waste disposal, which limit the effectiveness of its regulatory response. As an outcome of the audit, the EPA has committed to review the impact of pollution from environment protection licences that have conditions to discharge to the Sydney drinking water catchment. The EPA will work with other government agencies to ensure licence conditions will continue to protect water quality.

What are other jurisdictions doing?

Across most of NSW and other Australian jurisdictions, regulation of sewage water quality rests with local government. Regulation of major sewerage plant discharges is a significant focus for the EPA due to the licensing of the sewerage system for the biggest population hub in Australia: Sydney/Wollongong.

What happens next?

The EPA's purpose is to protect the community and the environment. The EPA will continue to work closely with other agencies to ensure a whole-of-government approach to the protection of the Sydney drinking water catchment in relation to activities where it is the appropriate regulatory authority.

The EPA regulates major point sources of water pollution under the strict conditions of environment protection licences. These licence requirements will continue to be reviewed and tightened, where required, via pollution reduction programs to protect water quality.

2.9 Noise

Why is this important?

Excessive noise can be annoying and interfere with sleep and work. It can also affect a person's ability to hear normal speech and other sounds in their environment. Excessive noise is a concern for many people in NSW. The impacts of noise depend on the noise level, its characteristics and how it is perceived by the person affected. Excessive noise can have both short-term and long-term effects on human health.

How has the EPA managed this issue?

The EPA manages industrial noise in NSW through the POEO Act and the Noise Policy for Industry. The policy balances the need for industrial activity with the community's desire to minimise intrusive sounds. It sets assessment noise levels, consistent methods and best practice measures to manage industrial noise, and is based on the latest scientific research regarding the health effects of noise.

In 2017–18, the EPA finalised and published the Noise Policy for Industry, which included the development of an implementation strategy and transitional arrangements. EPA operations officers have been trained in the application of the new policy. The EPA has also communicated the changed policy to other government agencies and industry groups.

What are other jurisdictions doing?

The review and update of the Noise Policy for Industry was completed ahead of a review of the national Environmental Health Standing Committee (enHealth) statement The Health Effects of Environmental Noise 2004. The EPA has been represented on the technical advisory committee for the review, and the Noise Policy for Industry will be consistent with the new enHealth statement.

What happens next?

In 2018–19, the current noise pollution training provided to EPA officers will be reviewed and updated to reflect the changes that were made in the new policy. The EPA is providing ongoing support and advice on interpretation of the guidelines, recommended licence conditions and recommended regulatory requirements for robust, credible and consistent implementation of the policy.

2.10 Liveability

Why is this important?

The importance of environmental programs in strategic planning will continue to increase to meet the needs of a growing and changing population. This includes incorporating into the EPA's decisions better air quality and water-sensitive urban design and promoting consideration of impacts when locating sensitive uses (for example new residential developments, schools and hospitals) near industrial sites or intensive agriculture.

As an independent statutory authority, the EPA develops and informs environmental programs to prevent harm to human health and the environment and improve liveability in NSW. The EPA works with state and federal governments, local councils and other key organisations to ensure environmental issues are considered in major planning assessments and broader environmental policies.

How has the EPA managed this issue?

The EPA worked closely with key stakeholders, including the Greater Sydney Commission (GSC), in the development of A Metropolis of Three Cities: The Greater Sydney Region Plan and five supporting District Plans. These plans were released by the GSC in March 2018 and the EPA has been involved in their development over the past three years.

The Greater Sydney Region Plan aligns land use, transport and infrastructure planning to reshape Greater Sydney as three unique, but connected, cities: Western Parkland City, Central River City and Eastern Harbour City. The five District Plans are a guide for implementing the Region Plan at district levels; namely Western City, Central City, Eastern City, North District and South District.

The plans also build upon key initiatives, such as the South Creek Corridor Strategy, which is an important structural element of the new Parkland City in Western Sydney and a NSW Premier's Priority.

The EPA helped inform a range of information and supporting actions in the Region Plans and District Plans relating to water quality, air quality, noise amenity, waste and sustainability. It also included new approaches for protecting industrial lands. Other issues, such as contaminated land and its management, were also recognised in the commentary of the plans under a new concept of 'urban hazard'. The EPA continues to consider tools such as Protection of the Environment Policy provisions for the implementation phase of the South Creek Corridor Strategy.

What happens next?

The EPA will help guide new growth across Greater Sydney, including the new Western Sydney Priority Growth Area associated with the new second Sydney Airport and new precincts. Continuing to work with the GSC and local councils in the development of local strategic planning statements will shape how the development controls in local environmental plans evolve over time to meet the community's needs and satisfy key strategies and actions in the District Plans and Regional Plans. The EPA will also continue to work with Infrastructure NSW on the development of the South Creek Corridor Strategy.

2.11 Incident response

Why is it important?

The EPA works with other agencies – especially the NSW Police Force, Fire and Rescue NSW (FRNSW), Rural Fire Service, NSW Health and SafeWork – to deliver an effective, integrated and coordinated incident management capability across NSW that meets current and future needs, and ensures community safety and protection of the environment.

How has the EPA managed this issue?

The EPA maintains an effective incident management capability across all regional areas of NSW. While the EPA regional staff are our frontline responders to pollution incidents, maintaining this capacity requires specialist support skills, familiarity with emergency management plans and protocols and effective working relationships with emergency services. Given the range of functions and day-to-day priorities within regional locations this support is most reliably maintained through a small specialist team that supports the regions across the range of incidents within the EPA's sphere of responsibility.

The EPA continues to strengthen and formalise existing relationships with combat and support agencies by:

- entering into a Memorandum of Understanding (MOU) with FRNSW, which ensures mutual assistance at hazardous materials incidents that threaten public health or the environment. When a hazardous materials incident occurs, FRNSW is responsible for rendering the incident-impacted site safe for subsequent clean up. The EPA's role is to coordinate scientific advice to the firefighters during the response phase and then to ensure the site is appropriately cleaned up once it has been rendered safe
- entering into an MOU (and Rapid Response Framework) with other agencies (Health NSW, SafeWork, Department of Primary Industries, Planning and Environment and Office of Local Government) to activate, decide on and coordinate a rapid response (not an emergency response) to significant contamination events and strategically manage emerging contamination issues from a whole-of-government perspective
- upgrading its Environmental Services Coordination Centre, as part of its responsibility as coordinator of the Environmental Services Functional Area. The centre uses the latest large-screen technology to monitor, in real time, events and incidents across NSW
- working closely with Regional Emergency Management Officers (NSW Police Force) across regional NSW in managing complex multi-agency incidents.

Provision of targeted training

The EPA provides incident management training to all staff so that if a hazardous incident occurs, the EPA's staff can provide support and advice to other agencies involved in protecting the environment and public health. The EPA's training program is expanding to improve knowledge of the incident management system across the whole of the EPA and its partners.

Timely response to incidents and communications

The EPA has a 24/7 incident management system to ensure spills and hazardous material (hazmat) incidents are responded to effectively. This includes the ability for the community to report pollution to the EPA at any time of the day or night via the EPA's Environment Line (131 555). Triage of the reports is actively undertaken, with significant pollution events being responded to promptly and investigated by the EPA's network of regional field operatives.

The EPA also maintains a 24/7 specialist support and advice role: the Duty Incident Advice Coordinator (DIAC). The DIAC provides a one-stop call centre for emergency services for significant hazardous materials incidents that pose public health or environmental concerns. The DIAC liaises with EPA regional staff to assist in the response and clean-up by providing advice and assistance both remotely and in the field as appropriate. This may include notifications, both internal and to other agencies, as well as providing advice on chemicals spilled, waste disposal and so on.

The EPA has also established a specialised sampling team with the capacity for rapid proactive response sampling and analysis of emerging contaminants and other pollutants. This team can be quickly deployed in the case of an incident to provide expert advice to combat agencies on risks and mitigation actions.

What happens next?

The EPA will be:

- expanding the capability of the specialised sampling team and establishing a panel of experts across a range of disciplines (under section 29 of the *Protection of the Environment Administration Act 1991*). This will provide independent scientific and health expertise relating to management of contamination and emerging contaminants
- seeking to secure formal agreements (MOUs) with other agencies who collaborate on day-to-day incident response, such as the Rural Fire Service and State Emergency Services
- developing a State Disaster Waste Management Plan to ensure an integrated approach to improve customer service outcomes following disasters
- undertaking collaborative approaches with high-risk waste sites to improve the quality of their Pollution Incident Response Management Plans (PIRMPs), expand and integrate existing IT systems to capture data about licensed sites (including PIRMPs) under the POEO Act and share appropriate information with other combat agencies in the event of an incident
- improving collaboration with all emergency services agencies through full-time staff secondments between agencies.

3. Reducing environmental degradation

The EPA's key focus areas for reducing environmental degradation in 2017–18 were native forestry, coal seam gas, waste and microbeads.

3.1 Native forestry

Why is this important?

Harvesting of native forests can impact soils, water, and threatened plants and animals and needs to be sustainably managed. Integrated Forestry Operations Approvals (IFOAs) and the private native forestry (PNF) codes of practice are the environmental protection rules in place for forestry. The EPA is responsible for oversight of native forestry environmental policy in NSW, as well as compliance and enforcement of native forestry operations on both public and private land.

In native forestry policy, the EPA is working with the Department of Primary Industries and other agencies on a range of regulatory reforms to the native forestry sector in NSW. These are set out in the [NSW Forest Industry Roadmap](#). They include:

- new legislation
- reforms to the licences, codes and regulatory instruments
- the review and extension of the bilateral Regional Forest Agreements (RFAs) with the Commonwealth.

Of these, the EPA has led the development of the new legislation, the remaking of the Coastal IFOA (the environmental protection rules for native forestry on NSW's coastal timber production state forests) and the review of the RFAs.

How has the EPA managed this issue?

In 2017–18, the EPA drafted and led public consultation on a draft Coastal IFOA. The EPA has also worked with the Parliamentary Counsel in the preparation of the *Forestry Legislation Amendment Act 2018*, which was passed by Parliament and assented to on 27 June 2018. The Act which commenced in November 2018, establishes the legislative framework for the new Coastal IFOA, stronger penalties for not complying with the IFOAs, and expanded regulatory tools (such as stop-work orders and remediation orders) to improve environmental outcomes and correct systemic non-compliances.

In 2017–18, the EPA led a review of NSW RFAs. This review focused on the NSW and Commonwealth governments' satisfactory implementation of the milestones and commitments of the RFAs between 2007 and 2014. An independent reviewer was appointed, and on 25 June 2018 the reviewer's report was tabled in Commonwealth Parliament summarising the outcomes of public consultation and recommendations for both governments to consider in the preparation of future RFAs. The EPA is contributing to a process to extend the RFAs beyond their expiry in mid-2019.

The EPA conducted up-front risk assessments on planned or active logging operations, assigning a level of risk by weighing environmental, public interest and past operator performance criteria. Through this process the EPA identified 17 high-risk forestry operations across both public and private land in 2017–18.

Of the 17 identified high-risk operations, the EPA assessed 82% of them for compliance under the Private Native Forestry Codes of Practice or the IFOAs. The EPA found that a high proportion of high-risk forestry operations identified non-compliance issues that required either corrective action or compliance action to be taken. Examples of non-compliances identified were the poor selection and protection of important habitat trees and management of drainage features, including roads and track crossings but it was uncommon to identify serious non-compliances or environmental harm.

What are other jurisdictions doing?

The NSW EPA is the only EPA in Australia to regulate forestry. In other states, native forestry operations are regulated by other environment agencies, and in the case of Tasmania, an independent statutory body: the Forest Practices Authority.

What happens next?

The NSW Government remains on track to have a new native forestry regulatory framework for both public and private land in place by 2019. The EPA is preparing to implement the *Native Forestry Legislation Amendment Act 2018* and the Coastal IFOA. The EPA will refocus its regulatory program and be on track to meet its target of assessing compliance of 95% of high-risk native forestry operations in 2018–19, and will continue to follow up on actions that arise as a result of the compliance assessments.

3.2 Coal seam gas

Why is this issue important?

The EPA is building community confidence in the way we regulate gas development in NSW.

The coal seam gas industry in NSW operates under some of the toughest controls in Australia. These controls include:

- regulations governing all aspects of coal seam gas activity, including codes of practice on coal seam gas exploration, fracture simulation and well integrity
- oversight of developments and activities by an independent Land and Water Commissioner
- a ban on the use of BTEX chemicals² and evaporation ponds in coal seam gas drilling
- referrals to the NSW Minister for Primary Industries and the Commonwealth Independent Expert Scientific Committee for advice on water impacts
- the EPA as lead regulator.

How has the EPA managed this issue?

The EPA is the lead regulator for compliance with, and enforcement of, conditions of approval for coal seam gas activities in NSW, including consent conditions and activity approvals issued by other agencies. This excludes conditions of approval related to work health and safety.

'Action 4' of the NSW Gas Plan established a one-off buy-back of petroleum exploration licences by the NSW Government for titleholders across the state. At the end of 2017–18, the EPA assessed 95% of petroleum exploration licences bought back were rehabilitated and their compliance confirmed.

The EPA established a strategic approach to gas compliance activities to ensure regular inspections of gas operations are undertaken in line with the responsibilities under the NSW Gas Plan. During 2017–18, the EPA carried out 125 inspections across NSW. These were made up of 30 rehabilitation inspections, 90 general inspections and five incident-related inspections.

² BTEX chemicals refer to hydrocarbon compounds: benzene, toluene, ethylbenzene and xylenes.

The EPA continued to engage with the community, including:

- attending all Narrabri Community Consultative Committee (CCC) meetings
- attending regional agricultural shows in areas where coal seam gas operations exist or are proposed
- responding to Environment Line calls
- reporting on licence variations, compliance activities and regulatory actions.

The EPA also provides a regular newsletter for the Narrabri CCC. The EPA has worked with many stakeholders to streamline the regulatory framework for coal seam gas and develop better information-sharing processes between government agencies.

The EPA is leading a project to meet recommendation nine of the Chief Scientist and Engineer's Independent Review of Coal Seam Gas Activities in NSW report about financial security mechanisms for environmental liabilities for the gas sector. The Gas Regulation Branch of the EPA has been part of the project team and designed and led the stakeholder interactions.

What are other jurisdictions doing?

Other state jurisdictions have varied approaches to managing the risks associated with coal seam gas activities. Queensland and NSW have had the most major coal and coal seam gas extractions. Queensland has two main departments involved in the assessment of coal and coal seam gas operations: the Department of Environment and Heritage Protection and the Department of Natural Resources and Mines (including the Office of Groundwater Impact Assessment).

In Victoria, the *Resources Legislation Amendment (Fracking Ban) Act 2017* bans onshore hydraulic fracturing and coal seam gas activities. It also extends a Victorian moratorium on onshore conventional gas. The Act allows for continued underground gas storage and does not affect access to offshore gas resources from onshore areas. South Australia has a similar approach to NSW.

What happens next?

The EPA will continue to perform its role as lead regulator for gas, including looking at ways to improve the regulatory framework.

In 2018–19, the Gas Regulation Branch will trial remote sensing as part of its compliance and enforcement activities. The findings of this trial will be shared across the EPA and the government more broadly.

3.3 Waste

Why is this issue important?

Litter pollutes ecosystems, waterways and built environments. Beverage container litter makes up 44% of all litter in the state and costs more than \$162 million to manage and clean up. Plastic litter in marine environments kills marine creatures, such as birds and turtles, and microplastics can disrupt the marine food chain.

How has the EPA managed this issue?

Litter

The statewide container deposit scheme, Return and Earn, was launched on 1 December 2017. It is the largest litter-reduction initiative introduced in NSW. The scheme will help reduce beverage container litter in the environment and support the Premier's Priority of reducing the volume of litter by 40% by 2020. On 28 July 2017, the Minister for the Environment appointed Exchange for Change as the Scheme Coordinator and TOMRA Cleanaway as the Network Operator, following a competitive selection process.

Collection points include reverse vending machines (RVMs), local shops, depot sites and recycling centres.

Beverage suppliers, including manufacturers, importers, wholesalers or retailers that first supply eligible drink containers in NSW, are responsible for funding the refunds and associated scheme costs.

Between December 2017 (when Return and Earn was launched) and 30 June 2018, the program saw:

- 452 million eligible containers returned
- \$45.2 million returned to citizens, community groups and charities through collection points
- 632 collection points established across NSW
- 54% of eligible containers supplied to the market recovered through the program.

Also, by the end of May 2018, there was a 33% reduction in the volume of littered eligible drink containers.

China Sword

China's enforcement of its National Sword Policy restricts the types of recyclable material China will accept, including what is currently collected in NSW. While this presents immediate challenges, there are also opportunities to strengthen the state's recycling sector, and generate social, environmental and economic benefits for the community.

Responding effectively to these global changes requires a collaborative approach. To this end, the NSW Government has established an inter-governmental taskforce to progress a longer-term strategic response to National Sword, in partnership with industry and local councils.

Since its establishment, significant progress has been made on a range of short-, medium- and long-term initiatives to ensure kerbside recycling can continue and to promote industry innovation.

The taskforce has established five working groups to focus on these specific objectives. The working groups are:

- Government Procurement
- Circular Economy Policy
- Streamlining the Approval of Recycling Facilities
- Longer-term Solutions and Business Case
- Model Contracts and Negotiation Support.

Two stakeholder reference groups have also been established to work with the taskforce: the Local Councils Reference Group and the Industry Reference Group. These enable the taskforce to access the expert knowledge of the members and provide a forum to share ideas, hear concerns and learn about actions being taken to respond to China's National Sword Policy and strengthen local recycling.

What are other jurisdictions doing?

On 27 April 2018, Australia's environment ministers agreed to update the National Waste Policy by the end of 2018. A cross-jurisdictional working group has been established to undertake this work and NSW is actively working with the other states and territories to achieve this goal.

Queensland has been focusing on waste and litter via a plastic bag ban, container refund scheme, and end of waste codes for fertiliser wash water and slurry, and oyster shells.

Since the NSW Government announced its intention to implement a container deposit scheme in 2015, Queensland, the ACT and Western Australia have also signalled similar intentions. The ACT commenced its container deposit scheme in June 2018 and Queensland's is scheduled to commence in 2018. Western Australia has indicated its scheme will commence in 2019.

South Australia and the Northern Territory already have container deposit schemes. South Australia's scheme was introduced in 1977, making it the first Australian jurisdiction to introduce such a scheme. The Northern Territory introduced its scheme in 2011.

All the existing and proposed schemes cover a similar scope of beverage containers and all offer a 10c refund.

What happens next?

Return and Earn will continue to roll out return points across the state and promote opportunities to include more community based programs to return containers.

The EPA will lead the development of a NSW circular economy policy. This will contribute to strengthening local recycling markets and ensure NSW has a robust and adaptable waste and recycling future.

3.4 Interstate transportation of waste

Why is this issue important?

The EPA estimates that at least 1.017 million tonnes of waste was transported from NSW to Queensland for either recycling or disposal in 2017–18.

Waste that is transported interstate is primarily construction and demolition waste, comprising a significant percentage of re-usable and recyclable materials. This practice is inconsistent with the waste hierarchy, which prioritises re-use and recycling over disposal.

How has the EPA managed this issue?

The EPA uses a range of tools to minimise the environmental, human health and resource recovery impacts of the long-distance transport of waste for disposal. This includes ensuring that loads of waste are fully covered and sealed. The EPA also ensures relevant waste operators are licensed and have taken steps to minimise the risks of spills, leakage and the unnecessary human exposure to asbestos and other contaminants.

In addition, the EPA is leading the largest transformation of waste management in Australia with the investment of \$802 million over nine years under the Waste Less, Recycle More Initiative. This investment is building local capacity to manage waste and increase recycling by further limiting the need for unnecessary transport of waste material.

What are other jurisdictions doing?

While waste has always moved between the states and territories, there has been a significant increase over the past five years in its transport from the Sydney, Illawarra and Hunter regions to south-east Queensland. The removal by the Queensland Government of its waste levy in 2012 in effect encouraged large amounts of NSW waste to be moved to Queensland's levy-free landfills, as it is seen as a cost-saving measure by some operators.

The proposed re-introduction of a waste levy in Queensland, proposed to come into effect in the first quarter of 2019, should lead to a reduction in the long-distance transport of waste for disposal and its associated impacts.

However, the interstate transport of waste is not just a NSW problem. The EPA understands that there are also substantial waste movements between:

- the ACT and NSW
- Victoria and Queensland
- Victoria and South Australia.

What happens next?

In the longer term, a coordinated national regulatory response is likely to be the most effective solution to the environmental and economic costs associated with the unnecessary long-distance transport of waste.

NSW is seeking to build consensus with other states and the Federal Government to develop a robust and coordinated regulatory response to the long-distance transport of waste and promote consistent waste management standards at facilities across Australia. The aim is to minimise the risk of harm to human health and the environment and promote waste management practices in accordance with the waste hierarchy.

3.5 Microbeads

Why is this important?

Microbeads are tiny pieces of plastic, often microscopic in size, that are added to a range of products, including rinse-off cosmetics and personal care and cleaning products.

Once in the water, microbeads have the potential to cause harm to the environment and to human health due to their composition, ability to attract toxins and tendency to transfer up the food chain. Microbeads persist in the environment as they do not readily biodegrade and they are almost impossible to remove from the environment due to their small size. The best way to reduce the impact of microbeads is to prevent them from entering the environment.

How has the EPA managed this issue?

Addressing emerging issues such as marine microplastics was identified as a future opportunity in the 2015 State of the Environment Report. Since then, the EPA and the Australian Government have been working closely with industry association Accord to secure a voluntary industry phase-out of microbeads in cosmetic and personal hygiene products.

An independent assessment of the sale of products containing microbeads from supermarkets and pharmacies undertaken at the end of 2017 demonstrated that 94% of cosmetic and personal care products did not contain microbeads.

What are other jurisdictions doing?

At the Meeting of Environment Ministers in April 2018, Ministers affirmed their commitment to fully achieving the phase-out, and to examining options to broaden the phase-out to other products that contain microbeads.

What happens next?

The EPA and the Australian Government will continue to work with Accord to ensure the ongoing success of the voluntary microbead phase-out in cosmetic and personal hygiene products. It will also continue to work with the Australian Government on options to broaden the phase-out to other products.

In addition to the work on microbeads, the EPA has commissioned the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to undertake an extensive research project that will identify and quantify microplastics that enter waste water treatment plants and are released into the marine environment via effluent. This CSIRO research will provide data to inform assessment of whether the voluntary industry phase-out of microbeads continues to work effectively. It will also potentially identify other types of plastic pollution entering the marine environment. The research will provide the NSW Government with a greater knowledge base to determine the best steps to minimise microplastic pollution into the future.

4. Industry performance

The EPA administers licences to local councils, government agencies and business and regulates activities that have the potential to cause environmental harm.

4.1 Environment protection licensees

The EPA carries out audits to assess whether industries are complying with licence requirements. In 2017–18, the EPA's specialised audit team conducted 47 compliance audits, including 24 small sewage-treatment plants and 21 waste facilities. In addition, two compliance audits were undertaken that targeted the veracity of information provided in their annual return regarding environmental management systems and practices.

The 24 small sewage-treatment plant audits resulted in the licensees implementing 148 actions to improve their environmental performance and 110 actions to correct inaccuracies in the monitoring data published on their websites.

The 21 waste facility audits resulted in licensees implementing a total of 238 actions to improve their Pollution Incident Response Management Plans (PIRMPs).

4.2 Risk-based licensing results

The EPA's risk-based licensing (RBL) system has been fully operational since 1 July 2016. It provides an economic incentive for environment protection licence holders (licensees) to maintain and improve their environmental performance by linking performance to annual licence administrative fees. Poorer performers pay higher fees.

During 2017–18, the EPA closely monitored the implementation of the RBL system. The EPA is satisfied that the system is operating generally in accordance with its objectives. In March 2018, the EPA started the first stage of its review of the RBL system. This involved gathering EPA officers' RBL-related experiences, issues and options for improvement. The review will help the EPA to assess whether adjustments need to be made to the RBL system (and the supporting information and approaches) to allow it to be more effective and to more fully achieve its objectives.

The RBL system also recognises licensees' efforts to improve their environmental performance by enabling them to access fee discounts. In 2017–18, the EPA accepted 19 Environmental Improvement Programs with a total worth of \$5.88 million. These programs are voluntarily proposed and committed to by environment protection licence holders.

The EPA uses the overall risk levels determined through the RBL system to better focus its regulatory efforts, expending a greater portion of resources regulating higher-risk premises. The EPA is also simplifying the regulation of low-risk premises, including licensees with good environmental performance. Over time this is likely to result in more streamlined licences for these licensees. This includes setting site inspection targets for each level of risk and monitoring the frequency and distribution of inspections it conducts to ensure those targets are met.

The EPA's first full year results for inspection on high-risk licences did not achieve targets of twice-a-year inspections. The EPA has committed additional resources to achieving this, and has revised this measure to ensure that 100% of high-risk licences are inspected every six months. This will be reflected in the 2018 update to the Strategic Plan. The EPA's response to the 2018 Audit Office Report includes a commitment to mandate the timing of site inspections under risk-based licensing. This change will help achieve this for high-risk licences.

These approaches allow the EPA to ensure that licensees are regulated in a way that matches the level of risk they pose to human health and the environment. Approximately 2.5% of licences are high risk.

4.3 Underground petroleum storage systems

Historically, underground petroleum storage systems (UPSS) have been a major source of land and groundwater contamination in NSW. Approximately 3,300 sites in NSW have an operating UPSS. These include service stations, marinas, council works depots, golf courses, airports, car dealerships and government facilities.

The Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014 (UPSS Regulation) has been implemented to improve the environmental management of UPSS by focusing on up-front preventative measures. The UPSS Regulation promotes industry best practice for the design, installation, ongoing maintenance and monitoring of UPSS. Non-corrodible double-walled tanks and lines are required for all new UPSS installations. All operators of UPSS must have written operating procedures and documented methods for monitoring and reporting leaks. Since commencement of the UPSS Regulation in 2008 the EPA has undertaken over 700 inspections of sites with a UPSS.

By protecting soil, water and air quality, the community benefits through better health and environmental outcomes and improved land-use opportunities. There are business benefits through reduced fuel losses and reductions in liabilities from clean-up costs and damage to land values. On 1 September 2019, regulatory responsibilities for UPSS will transfer to local councils with the remake of the UPSS Regulation. In the interim the EPA will continue to:

- work with councils, the community and operators to manage environmental incidents related to fuel storage facilities
- share expertise with councils, be actively involved with training and knowledge transfer and improve industry performance
- develop a comprehensive and up-to-date body of guidance for use by councils and the industry
- consult widely on the remake of the UPSS Regulation to better reflect community expectations, industry best practice and the regulatory environment
- ensure councils, particularly in non-metro areas, will have the capacity to supervise fuel storage activities.

4.4 Dangerous goods transport

The EPA regulates the road transportation of dangerous goods in accordance with the *Dangerous Goods (Roads and Rail) Transport Act 2008* and the Australian Code for the Transport of Dangerous Goods by Road and Rail 2017. The regulation allows for efficient movement of goods while ensuring transporters comply with statutory obligations to prevent accidents and damage to the environment. The EPA works closely with other agencies (such as SafeWork, Fire & Rescue NSW, Roads and Maritime Services and the NSW Police Force) as well as industry. This close cooperation has led to the development of a comprehensive tank vehicle inspection manual, which provides guidance to people inspecting road tank vehicles and prime movers intended to transport dangerous goods.

The EPA has also organised and participated in compliance campaigns across NSW with the aim of identifying non-compliances, educating transporters and taking regulatory action to address significant non-compliances.

In this context, the EPA successfully prosecuted Toll Global Forwarding Pty Ltd in the Land and Environment Court. This resulted in significant fines commensurate with the risks posed to the community and the environment from the unsafe transport of dangerous goods. Further detail on prosecutions completed by the EPA in 2017–18 can be found in section 5.1.

4.5 Waste Crime Taskforce

The Waste Crime Taskforce (WCT) commenced more than five cases of alleged waste crime offences in 2018, including prosecutions against Paul Mouawad and Aussie Earthmovers Pty Ltd, in relation to the transport and disposal of asbestos-contaminated waste from Abercrombie Street, Darlington in Sydney and Sam Ali for failing to comply with investigative requirements. The NSW Police Force also commenced criminal proceedings against Paul Mouawad for fraud offences under the *Crimes Act 1900*.

In 2018, the WCT continued to:

- work collaboratively with the NSW Police Force and other external agencies
- develop campaigns and other proactive initiatives to prevent waste crime and disrupt illegal business models, and
- monitor and evaluate the success of the WCT against performance indicators.

4.6 Review of coal-fired power stations

Power stations are a significant source of air emissions in NSW. In 2013, the EPA's air emissions inventory estimated that coal-fired power stations contributed 88% sulfur dioxide (SO₂) emissions, 51% oxides of nitrogen (NOx) emissions and 4% particulate matter <2.5 µm (PM_{2.5}) to anthropogenic emissions in the Greater Metropolitan Region.

In March 2018, the EPA published online a detailed and focused review of power station emission performance and emission reporting. This included reviewing approximately 1,200 data files and other sources of information as well as inspections of the power stations.

The review found extensive compliance with regulatory requirements. There was no evidence of misreporting or deliberate under-reporting of air emissions. There were only a few instances of non-compliance, and these have been addressed in accordance with the EPA's Compliance Policy.

The review made 13 recommendations relating to compliance, licence consistency, emission monitoring and reporting. The EPA has committed to actioning all recommendations, working with industry and in consultation with the community. The project will ensure consistent and transparent regulation of power stations and sound environmental performance on an ongoing basis.

Recommendations included:

- review of licences and, where practical, variation of licences to ensure consistency across the sector
- harmonisation of reporting requirements across the sector
- investigation of options and technologies to refine and improve monitoring and reporting practices.

4.7 Transport infrastructure

Currently an unprecedented amount of transport infrastructure construction is occurring in Sydney. While these projects have considerable regional benefits, they have potentially significant amenity and health impacts on communities near the construction sites, largely arising from noise-quality and air-quality impacts.

The EPA regulates transport infrastructure construction sites through environment protection licences issued under the POEO Act. Many of these activities are also regulated by the Department of Planning and Environment through the consent granted for the project.

The EPA works collaboratively with the Department of Planning and Environment as a co-regulator in relation to these projects. This is to ensure consent and licence conditions require appropriate assessment and mitigation of impacts on impacted communities. The EPA regularly meets with the Department of Planning and Environment to ensure consistency and avoid duplication of compliance activities for the projects. Both organisations jointly attend community meetings for the WestConnex project and have developed community fact sheets for contentious issues associated with the project.

The Good Neighbour education and compliance initiative is another result of collaborative efforts between the EPA and the Department of Planning and Environment. Good Neighbour shifts the compliance focus from individual projects to projects and issues with the highest risk of impacts and/or concern to the community, and includes agreements made with the community.

In July 2018, education forums regarding Good Neighbour were extended to utility and service providers. Amendments are proposed to environment protection licences to ensure consistency in approach for issues with the highest risk of impacts and/or concern to the community, including works undertaken outside of standard construction hours.

5. Regulatory assurance

The EPA's regulatory framework encompasses legislation, policy, education, incentives, licensing, administration, auditing, investigation, and compliance and enforcement action. While this forms the day-to-day work of the EPA, key activities for 2017–18 included:

- undertaking prosecutions reflecting the seriousness of offences, with a 98% prosecution success rate (excluding litter)
- conducting internal reviews of operational guidance
- predicting and planning for operational risk
- training in environmental auditing
- developing guidelines relating to recovering monetary benefits associated with non-compliance of offenders prosecuted under the POEO Act
- reducing the NSW Governments' exposure to environmental liabilities.

5.1 Prosecution case studies

A selection of case studies presented below provide insight into the range of offences that the EPA regularly prosecutes. Further detail can be found in the EPA's Annual Report 2017–18.

Ardent Leisure

In April 2018, the Land and Environment Court convicted Ardent Leisure of polluting waters and failing to keep 'as built' diagrams for an underground petroleum storage system.

Ardent engaged a specialist company to decommission a disused diesel fuel tank at its Rushcutters Bay Marina site. Part-way through the decommissioning process, the contractors left the marina with a severed delivery pipe. After this, a member of the public's purchase of diesel at the marina's bowser activated a turbine pump, causing fuel to flow through the UPSS, including the severed pipe. Approximately 6,845 litres of diesel fuel escaped from the pipe. While up to 1,000 litres was captured on site, the remainder spilled into the waters of Rushcutters Bay.

Ardent was in possession of documentation that suggested that modifications had previously been made to the fuel line, but this was not provided to the contractor. The company failed to ensure that accurate 'as-built' drawings of the UPSS were kept. The provision of those drawings to the contractor was a practical measure that should have been taken to avoid the incident.

Ardent was ordered to pay a \$157,950 in fines, in addition to EPA costs.

Clarence Colliery

In July 2017, the Land and Environment Court convicted Clarence Colliery of negligently causing the escape of a substance in a manner that harmed or was likely to harm the environment. This is a Tier 1 offence: the most serious environmental offence and the one that attracts the highest maximum penalties. The court imposed financial penalties totalling \$1,050,000. This was the single largest fine following a prosecution by the EPA.

This conviction followed one of the most significant environmental incidents the EPA has recently dealt with. Between 30 June 2015 and 1 July 2015, approximately 530 tonnes of coarse coal reject and coal fines slurry spilled from Clarence Colliery into the environment surrounding the mine site. Slurry containing coal fines also flowed into the Wollangambe River, which is in the Greater Blue Mountains World Heritage Area. Approximately 10.3 kilometres of the river was affected by this slurry. The EPA required Clarence Colliery to contain and clean up the spill. The clean-up process took 51 weeks and recovered more than 200 tonnes of coal material from the river.

Repeat waste offender

In May 2018, the Land and Environment Court convicted Mr Dib Hanna for five repeat waste offences.

Throughout 2015, Mr Hanna distributed flyers across Sydney offering delivery of 'free clean top soil, clay, crushed bitumen or shale'. Four residents contacted Mr Hanna and requested clean topsoil. In response, Mr Hanna caused the delivery and deposit of a total of about 461 cubic metres of asbestos-contaminated waste to the four residents' properties.

Sometime later, Mr Hanna relocated to Victoria and failed to appear a number of times before the Land and Environment Court to answer the charges. Following an application by the EPA, the court ordered the interstate arrest of Mr Hanna and his extradition to NSW. Victoria Police assisted with Mr Hanna's arrest and extradition.

Mr Hanna was sentenced to an aggregate term of imprisonment of three years, with a non-parole period of two years and three months, and ordered to remove the waste from the affected land and pay the prosecutor's (the EPA's) legal costs.

Rixa Quarries (No. 2) Pty Ltd

In July 2017, the Land and Environment Court convicted Rixa Quarries (No. 2) Pty Ltd of carrying out a scheduled activity without an environment protection licence.

Between March and October 2013, Rixa Quarries No. 2 extracted and processed over 30,000 tonnes of sand at Doonbah Quarry, Doonbah without the required environment protection licence. While Rixa had applied for an environment protection licence in May 2013, the EPA did not grant the application but requested additional information for its assessment of the application. Evidence provided by the defendant during the investigation showed that about 52,000 tonnes of sand was trucked off the premises between March 2013 and September 2013.

Rixa Quarries was ordered to pay a \$350,000 fine and the prosecutor's (the EPA's) legal costs.

5.2 Internal reviews of operational guidance

Operational policies

The EPA has a range of policies, guidance, procedures, templates and other important documents that inform and assist EPA officers while they carry out their regulatory functions.

The EPA is conducting a significant review to ensure that:

- the EPA's stock of operational policies is up to date, is fit for purpose and provides appropriate support to its officers (and others where appropriate)
- operational policies are easy to find and appropriately maintained (for example reviewed and revised at appropriate intervals and triggers, such as non-trivial changes to relevant legislation)
- its officers are using the appropriate version of a relevant document an approved 'single source of truth'.

This review will assist the EPA to ensure its officers carry out their regulatory functions in a consistent way and in accordance with good regulatory practice and the EPA's principles.

In 2017–18, the EPA:

- carried out a stocktake of its operational policies, guidance, procedures and templates
- identified a number of operational policy gaps and areas for improvement
- started to build a consolidated library of documents, harnessing the potential of the EPA's communication and information management systems.

Guide to Notices and Powers of Authorised Officers

The EPA is undertaking a significant review of the Powers of Authorised Officers 2006 and Guide to Notices 2009. These documents provide advice for authorised officers undertaking regulatory functions under environment protection legislation, primarily the POEO Act. Local government is an appropriate regulatory authority under the POEO Act, and a key user of these documents. The review will modernise the guidelines, ensuring they are legally correct, reflect current policy and are user friendly.

The EPA has consulted users of these guides, primarily via a survey, canvassing how they currently use the documents and how they could be improved to better meet their needs.

In 2017–18, the EPA:

- undertook stakeholder consultation to inform the review with local councils and other regulatory agencies; local councils were highly engaged in this process and provided valuable feedback
- developed a draft that consolidates both documents into one guide, to provide a more efficient resource that, where possible, addresses stakeholder feedback.

The EPA has commenced targeted consultation with key users.

Environmental guidelines: Preparation of pollution incident response management plans

All holders of an environment protection licence are required to have, activate, test and make available (as appropriate) a pollution incident response management plan appropriate to their premises and the activities they carry out. These requirements are in place to prevent pollution incidents, to the extent possible, and minimise their impacts if they do occur. The plans must meet the requirements set out in the POEO Act and the Protection of the Environment (General) Regulation 2009.

The EPA is reviewing these guidelines to assist licensees understand and meet their obligations. Over 2017–18, the EPA developed a revised draft containing additional information to help licensees develop and maintain more effective plans, including draft plan templates, and understand and meet their obligations. The EPA will consult licensees and other stakeholders on the revised guide and other potential complementary approaches.

5.3 Predicting and planning for future risks

In 2016, the EPA established an Intelligence and Analysis Unit. This was to lead the development of an intelligence capability with the necessary expertise, structures and processes to support decision makers across the agency.

Since 2016, the unit has developed the EPA's Intelligence Strategy, implemented an effective intelligence prioritisation framework and delivered over 25 operational intelligence products to a wide range of business areas. The products have covered a cross-section of environmental aspects, including industry sector profiles and assessments of problem topics, and have resulted in effective compliance and policy outcomes. The unit also provides tactical intelligence products to support investigations and staff safety and has recently started intelligence work at the strategic level. The unit continues to build and strengthen relationships with Commonwealth, State and Local Government partners, and is currently coordinating a Community of Practice for Intelligence under the banner of the Australasian Environmental Law Enforcement and Regulators Network (AELERT).

5.4 Environmental audit training courses

Globally, the EPA is the first environmental regulator to become a certified training provider in environmental auditing. Certification enables the EPA to train its own compliance officers and others from regulatory agencies in NSW and Australia, as certified environmental auditors.

The EPA carried out four environmental auditor training courses, training a total of 63 officers. This included eight from the EPA, 18 from OEH, one from the Department of Planning and Environment, two from local government councils and 34 from the Tasmanian EPA. Three of these courses were specially tailored to the needs of the OEH and the Tasmanian EPA.

5.5 Monetary benefits

Monetary benefits are the financial advantage that an offender gains from breaking our environmental laws. The POEO Act allows the EPA to seek a monetary benefits order (MBO) when a defendant is being sentenced for an offence in the Land and Environment Court. MBOs strip offenders of the financial advantage they gained from committing the offence. Recovering monetary benefits as part of a sentencing package also provides a strong deterrent for possible future offenders and an incentive for operators to take proper precautions to protect our environment.

In 2017–18, the EPA finalised a framework for recovering monetary benefits from offenders – a first for environmental regulators in Australia. The framework, which is available on the [EPA's website](#), was modelled on work by the United States Environmental Protection Agency, and developed in collaboration with EPA Victoria.

The EPA is actively seeking appropriate cases to test its MBO framework in court. It aims to be the first environmental regulator in Australia to successfully include an MBO in sentencing.

Environmental regulators across Australia are interested in the EPA's MBO project and it is expected they will follow NSW's lead. The EPA continues its work with AELERT to support other jurisdictions with their MBO approaches.

5.6 Environmental Liabilities Project

The Environmental Liabilities Project is aimed at reducing the NSW Government's future liability for remediation costs of industrial sites. In 2017–18, the EPA:

- commenced development of policy frameworks, including risk-assessment tools and cost-assessment guidelines, which will provide guidance over the EPA's management of financial risk from environmental liabilities, and allow for consistent and transparent application of mechanisms, such as financial assurances and environmental insurance
- continued its consideration of the Chief Scientist's recommendation for the gas sector by examining the current arrangements for environmental risk coverage of active gas projects in NSW and the feasibility of implementing new mechanisms to complement and strengthen existing protections for potential environmental liabilities
- continued to work with identified high-risk facilities to put financial assurance and insurance systems in place.

6. Evaluation of the EPA's performance

The EPA's performance has been regularly monitored and evaluated both internally and through external independent audits.

6.1 NSW Auditor-General's Report

In June 2018, the NSW Auditor-General published *Regulation of Water Pollution in Drinking Water Catchments and Illegal Disposal of Solid Waste* (Audit Office of NSW). The report found gaps in how the EPA implements its regulatory framework. The key issues were across governance and oversight, and regional consistency in compliance monitoring and enforcement.

The report found that the EPA needed to demonstrate:

- reliable practices to accurately and consistently detect the risk of non-compliances by licensees and to apply consistent regulatory actions
- effective governance and oversight of its regulatory operations
- an effective governance approach that includes appropriate internal controls to monitor the consistency or quality of its regulatory activities
- an effective performance framework that sets relevant expectations and outcome-based key performance indicators (KPIs) for its regional offices.

The Auditor-General recommended improvements in the areas of governance and oversight, consistency, compliance monitoring and enforcement. The EPA has commenced review of:

- the current performance framework and improvements to monitoring of regulatory operations
- operational regulatory policy and procedures, including guidance to ensure alignment with the EPA's Compliance Policy and regulatory requirement
- the risk-based licensing scheme and annual return management policy
- environment protection licences that have conditions to discharge into Lake Burrangorang catchment.

The EPA has incorporated actions into the update of the EPA Strategic Plan. This includes a new Commitment for Regulatory Best Practice, which incorporates outcomes-based measures for reporting, and establishment of an additional Regulatory Assurance and Performance function in 2018–19.

6.2 Monitoring performance against the Strategic Plan

An assessment of the performance of the EPA against the measures in its Strategic Plan 2017–21 can also be found in the EPA Annual Report 2017–18. The Board has noted that, while the EPA is on track to deliver many success measures set out in the 2017–21 Strategic Plan, it will need to closely monitor performance against other measures.

Examples of areas for focused improvement include ensuring that:

- all environment protection licensees report non-compliance in their annual returns
- all branches complete their work health and safety assessments by the end of each financial year
- new starters have an opportunity to participate in the EPA induction program within six months of commencing employment. This will be assisted by the release of the EPA Online Induction Course.

The Board has recommended further improvements to reporting on performance and better coordination of information by the branches:

- preparing additional centralised templates for each indicator with clear targets and mandatory fields for branches to complete
- introducing more automated systems to assist managers to stay on top of important commitments. These include automatic reminders for branches to complete their work health and safety assessments, and triggers for the EPA Compliance Incident Reporting and Management (CiRaM) system when inspections for high-risk premises are nearing their six-monthly requirement.

In early 2018, the EPA, in consultation with the Board, reviewed and updated its Strategic Plan, including measures. The measures in this update will be reported in quarterly reports to the EPA Executive and Board in 2018–19.

6.3 AELERT Modern Regulator's Improvement Tool

The EPA conducted the Modern Regulator's Improvement Tool in September 2017. The AELERT member agencies (including Queensland, South Australia and Tasmania) discussed progress and shared results at the AELERT conference in February 2018. The results showed:

- the most established attributes across the regulators were culture and leadership focus, regulatory philosophy and approach, corporate plan and contribution. All regulators had mature approaches to risk-based compliance planning, and the NSW EPA results were consistent with this
- the attributes that were least developed were quality assurance and review functions, and approaches to problem solving, and the NSW EPA results were consistent with this
- regulators were either developing or maturing their approach to learn from others, promoting the activity and visibility of their work, and in performance reporting
- there were variable levels in the areas of stakeholder and community engagement and governance and oversight. In the NSW EPA, these areas were well established, showing growth from the 2015 results, particularly in engagement. The well-established results for governance and oversight are in part due to increased oversight in the 2015–17 period, with the parliamentary inquiry and various reviews over this time, and implementation of the recommendations from these processes.

Through the AELERT network, the NSW EPA will continue to share results and approaches with other network agencies to help improve its regulatory attributes.

6.4 People Matter Employee Survey

Each year, the EPA uses the public sector's *People Matter Employee Survey* to improve communication and engagement throughout the organisation. This year, the EPA had a strong response rate of 92%, and scored highly across the questions related to respect and support.

The EPA maintained its high level of employee engagement at 70%, a little higher than the public-sector average. It improved in the areas of senior management communicating the importance of customer/client satisfaction in achieving business objectives and satisfaction with access to flexible working arrangements.

Responses showed a decline in feeling that change is managed well, and that senior management effectively lead and manage change. Actions to address this will be set out in a formal *People Matter Employee Survey* Action Plan for the EPA.

7. Progress towards the Board's prior-year recommendations

The EPA has progressed the Board's recommendations from the 2016–17 Regulatory Assurance Statement. Progress for resourcing contamination response, waste management, waste crime, transport of waste, asbestos, air quality, forestry reforms, strategic planning and the environmental liabilities project are outlined earlier in the document. The EPA has also addressed the Board's recommendations regarding the head office relocation to Parramatta and timeliness of community engagement, as outlined below.

7.1 Relocation of head office to Parramatta

The EPA are locating to Parramatta Square at the end of 2019. This will bring together staff from two separate EPA offices, OEH and the Department of Planning and Environment cluster to a single, modern, purpose-built office. The EPA acknowledges that this move will pose challenges for many staff who will have additional travel, and is providing staff with regular updates and information on working more flexibly. The EPA is also working closely with Cluster Corporate Services, which is leading the Parramatta move, to help prepare staff for the relocation and provide support through the transition period.

7.2 Timeliness and community engagement

The EPA responds to correspondence both from the public and on behalf of the government and the Minister for the Environment. The EPA met a key performance measure for customer service this year, with 95% of correspondence to the public and other stakeholders finalised within the allocated time. However, it did not meet its target of 80% of parliamentary correspondence responded to within two weeks. This was due to the extremely high levels of correspondence received at the start of the container deposit scheme, Return and Earn, between November 2017 and January 2018.

The EPA is expanding its new community engagement team and focusing on engagement with people who are directly affected by activities around contamination, air, noise and other pollution.

7.3 Acknowledging former Chair and CEO Barry Buffier's service to the EPA and the Board

The EPA Board wishes to extend its gratitude to Barry Buffier AM, Chair of the Board since its inception in 2012 until January 2018. As both Chair and CEO, Barry led the EPA through a six-year program to enhance and build on the EPA's capacities and reputation as a credible and responsive regulator to the people of NSW, and an EPA that is committed to maintaining and enhancing the liveability of NSW by preventing harm to human health and the environment.

8. Recommendations

The EPA Board provides the following recommendations for the EPA and industry regulated by the EPA to improve on performance.

8.1 Address the Auditor-General recommendations

The Board recommends that the EPA addresses the Auditor-General's recommendations to review:

- the current performance framework and improvements to monitoring of regulatory operations
- operational regulatory policy and procedures, including guidance to ensure alignment with the EPA's Compliance Policy and regulatory requirement
- the risk-based licensing system and annual return management policy
- environment protection licences that have conditions to discharge into Lake Burragarang catchment.

The Board notes the EPA is progressing the recommendation from the 2016 Catchment Audit for upgrades and licence conditions for major sewerage infrastructure in the Wingecarribee area.

8.2 Maintain focus on strategic waste management issues

The Board notes the EPA's progress on reducing waste and encouraging recycling, including by:

- embedding the container deposit scheme and reducing the volume of litter
- progressing the NSW response to China's National Sword Policy
- halting growth in per capita waste generation
- diverting more waste away from landfill
- reducing illegal dumping.

The Board recommends that the EPA continues to show leadership and provide direction on the strategic management of these issues. Responding to the China Sword announcement will remain a key priority, including making and implementing a series of recommendations to government regarding how the state should respond to China Sword. It is vital that the EPA continues to engage with industry on an appropriate market-related response to the issue.

In addition, the Board recommends that the EPA maintain its success of Return and Earn, including undertaking a review of the scheme's performance as well as investigating its possible expansion.

8.3 Complete the Contaminated Land Management Act review

The Board recommends that the EPA complete its review of the *Contaminated Land Management Act 1997* and look to incorporate any necessary amendments into State Environmental Planning Policy No. 55 – Remediation of Land (SEPP55) and any associated guidelines.

8.4 Continue to focus on new and emerging contaminants

The EPA has a key role to play in the protection of the environment and human health. The Board recommends that the EPA maintain its work to identify risks and address environmental threats on human health before they become a problem. This includes continued diligence on PFAS, along with the continuation of the EPA's strategic proactive identification and risk assessment of emerging chemicals and contaminants used across other jurisdictions.

8.5 Focus on ocean water quality and protection of marine life

The Board notes progress in reducing litter and microplastics, and recommends that the EPA considers additional policies and regulatory responses to help further reduce occurrence of plastics in the marine environment, some of which are toxic or hazardous to marine organisms and reduce human amenity of beaches, coastal waters and estuaries. Potential responses include understanding the origin (point and non-point source) of plastics, such as litter, single-use plastics and bags, plastics by-products and raw materials used in manufacturing of plastics found on our beaches and in coastal waters. It would be appropriate for the EPA and partner entities to consider policies, educational activities and regulatory action to reduce flushing into, or occurrence of these materials in, coastal environments and to respond to pollution issues.

8.6 Strengthen relationships with other government departments

The Board recognises that relationships, both formal and informal, with other government departments can assist the EPA to be a strong leader and partner in the protection of the environment and human health. These relationships can provide means for the EPA to provide, as well as gain, insight and input into policies, programs and processes across government. The Board recommends that the EPA look to continue and strengthen its relationship with other government departments, especially the Ministry of Health and the NSW Police Force.

8.7 Continue to successfully prosecute

In 2017–18, The EPA successfully proved its case in 77 prosecutions and the courts imposed almost \$2 million in financial, as well as other penalties. Seven prosecutions were particularly significant, reflecting the ongoing diligence of the EPA's investigatory and legal teams (see also the EPA Annual report 2017–18).

This year, the EPA legal team achieved a 98% success rate for prosecutions, excluding those for littering. The Board recommends that the EPA work to maintain this high success rate in prosecutions, especially for environmental offences that pose significant potential or actual threats to human health and the environment.

8.8 Embrace digital technology

During 2017–18, the EPA continued with its program of implementing digital technology initiatives to improve access to EPA services. Key initiatives that were implemented include the development of:

- the new EPA website
- online licensing capabilities for licensees to submit applications and annual returns for POEO, radiation management, dangerous goods and pesticide licenses
- a stakeholder relationship management system to capture stakeholder interactions
- the State of the Environment Online system, which facilitates streamlined and timely updating of information and which will be easy for the public to navigate and extract information from
- Local Litter Check, an online system to capture Litter Check data and share the information with stakeholders.

The EPA has also embarked on a regulatory systems transformation project to implement a modern, mobile-enabled and integrated platform to support incident and case management functions, delivering operational efficiencies and improved information access. Pega Platform has been selected, and the first release of this project is planned for completion in 2019.

The Board recommends that the EPA continue with modernising the regulatory platform to support core regulatory and licensing activities and integrate with the stakeholder relationship management system to achieve a single view of stakeholder information and the benefits of integrated regulatory and stakeholder management functions.

In addition, the Board recommends that the EPA consider where systems can be automated to provide notifications to staff when assessments, inspections and inductions are due.

8.9 Continue to provide strategic advice on key planning policies

The Board recommends that the EPA has continued input into planning policy in Sydney as the population and density along corridors increase. Establishment of licence and monitoring requirements of significant infrastructure, such as the Light Rail and Sydney Metro, are crucial to ensure protection of the environment and human health during the operation of such infrastructure.

8.10 Maintain a safe and valued workplace

The EPA has one of the lowest incident and accident rates within the Department of Planning and Environment cluster. The EPA also continues to score well in the NSW public sector's *People Matter Employee Survey*, compared to other NSW organisations,

The Board would like to see the EPA continue to strengthen its work health and safety culture and to continue to build a culture that is flexible and responsive. Managing change within the organisation was identified in the *People Matter Employee Survey* as an area to improve. A good way to meet this need will be taking further steps to ensure a seamless move to the new Parramatta head office.

8.11 Embed the new regulatory assurance function within the EPA

As part of the EPA's response to the Auditor General recommendations to improve governance and oversight, the Board notes that the EPA is establishing additional monitoring, evaluation and reporting frameworks to ensure that the organisation achieves its objectives and intended results, and reduces risks for the organisation.