

Annual report 2022-23
Agency performance



Our staff meet with our Aboriginal Water and Environment Advisory Group and the Committee of Aboriginal and Torres Strait Islander Water Interests

Acknowledgement and reconciliation

We acknowledge the Traditional Owners of the land upon which we live and work throughout Western Australia and pay our respects to their Elders past and present.

We recognise the practice of intergenerational care for Country and its relevance to our work as water and environmental managers.

We seek to listen, learn and genuinely engage and build strong partnerships. We aim to provide sustainable opportunities for Aboriginal people within our workforce and through our business.

Working with the community, we move forward with a shared commitment to protect and conserve Country for future generations. We recognise Country is a term used by Aboriginal people to describe the lands, waterways and seas to which they are intrinsically linked, and to which their wellbeing, law, place, custom, language, spiritual belief, cultural practice, material sustenance, family and identity belong.

Better together!



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Service 1 Water information and advice

Water measurement and monitoring

The department has built, and operates, a statewide water measurement and monitoring network.

This data contributes to water allocation and licensing, water resource development controls and health management, and floodplain risk assessments and advice. It is the backbone of the state emergency flood warning service.

The network is a combination of about 2,800 groundwater monitoring bores, 270 river gauging stations and 170 meteorological sites. This year we started a three-year \$4.2 million implementation of groundwater monitoring telemetry to about half of the state's bore network.

This technology will automatically collect groundwater data hourly and be available daily for our scientists, planners and the community via our Water Information Reporting (WIR) portal. This will enable better understanding and management

The network is a combination of about 2,800 groundwater monitoring bores, 270 river gauging stations and 170 meteorological sites.

of our valuable groundwater resources against a backdrop of a changing climate and increasing demand.

The remote collection will also reduce the 140,000 km of driving required by the department each year to measure groundwater levels manually. This contributes to reductions in emissions, potential environmental impacts and risks for our team.

We are also converting our streamflow and meteorological site telemetry systems from 3G mobile and soon-to-be-obsolete satellite networks to new mobile and satellite systems. This will increase bandwidth and allow for new technical opportunities such as on-site power monitoring, cameras and velocimetry (estimating streamflow rate using automated video imagery analysis).



Water information

Our WIR portal provides instant access to more than 150,000 water monitoring sites. The 2022–23 year was the biggest ever for WIR data, with 8,657 requests for water information and an average turnaround time of less than five minutes.

Analysis of data use shows most of these requests relate to environmental assessment, research and investigation. There was an increase in all categories except domestic water supply in 2022–23, compared with the previous year.

Water and environment planning advice

We provide advice to local governments and land planning agencies on water and environmental regulation, and water resource management in urban areas, to protect our natural systems and to support sustainable development.

In alignment with the <u>Draft State Planning Policy</u> <u>2.9 Planning for Water</u> and the <u>Draft State Planning Policy 2.9 Planning for Water Guidelines</u>, we direct that water resources should be considered at each planning stage.

We also encourage early consideration of flood, drainage and environmental factors, and planning for water supply, infrastructure, waterwise systems and service provision options that meet regulatory requirements.

Water Information Reporting data use

Purpose	2019–20	2020-21	2021–22	2022-23	
Environmental assessment	2,670	2,467	2,547	3,051	1
Research and investigation	1,035	1,444	2,242	2,622	1
Other	505	393	364	435	1
Mining and exploration	435	495	573	653	1
Agriculture	309	286	269	430	1
Domestic supply	248	172	194	153	\
Water source protection	231	216	292	551	1
Infrastructure	226	350	335	382	1
Property development/land use planning	212	187	223	249	1
Industry and commerce	39	92	78	99	1
Recreation	15	81	29	32	1

This role extends to pre-emptively scoping regulatory processes under Part V of the EP Act and *Contaminated Sites Act 2003* (Contaminated Sites Act) to ensure development proponents are informed of other legislative requirements.

Our new Environment Online portal will facilitate data-informed decision-making and more streamlined processes for environmental and water regulation. The first release of this business transformation flagship went live on 16 August 2022 and focused on delivering information and services to support environmental impact assessment activities under Part IV of the EP Act.

In 2022–23, the department assessed and responded to:

- 878 requests for water advice from the Department of Planning, Lands and Heritage (DPLH)
- 881 requests from local government authorities (LGAs)
- 204 requests from DMIRS
- 49 requests from the EPA
- 418 requests from other stakeholders, including other State Government agencies and utilities, and industry.

We also advised on 107 water management reports associated with land planning.

Drainage planning and floodplain modelling

The department works with local governments, other State Government agencies, service providers, the community and natural resources management agencies to support better water and environmental outcomes in the urban environment.

We do this by producing catchment-scale flood models for priority development areas and major state projects, and delivering guidance on stormwater and groundwater management. This assists developers and decision-makers to identify and resolve issues early.



A catchment-scale flood model

Key achievements

from July 2022 to June 2023

Provide advice

We continued to provide flood risk management and land capability advice for development areas identified in the Western Australian Planning Commission's Perth and Peel @ 3.5 million frameworks.

53 enquiries

We responded to 53 enquiries, with advice provided to members of the public, industry and government on water resources, flood risk management and modelling as part of the land planning process.

New work for catchment modelling

We produced new work on catchment drainage modelling, and stormwater and groundwater management issues for urban development.

Streamlining existing guidance

We streamline existing guidance that aligns with national standards.

Engagement

Our capacity-building program included a presentation to the Institute of Public Works Engineering Australasia in November 2022, and a June 2023 'Modelling Masterclass' workshop for local governments in the southern Perth-Peel areas which are subject to flooding in the Palusplain wetlands.



Floodplain mapping and advice

Since the floods in the Fitzroy River in January 2023, the department has been working with local government and across the State Government on floodplain development strategies to guide recovery activities and new development within affected communities.

Central to these strategies is our flood mapping for the January 2023 event. This extends from the Great Northern Highway crossing at Willare, near the mouth of the Fitzroy River, to the remote community of Kupungarri more than 450 km upstream.

The extensive flooding in both the West Kimberley region and across the Eastern States this year has again highlighted the need for proactive management of floodplains to mitigate the risk of flooding to people, property and infrastructure.

In 2022-23 the department responded to more than 700 requests for floodplain management advice.





Inundation mapping of Cambelline townsite prepared by Andrew Watson, Senior Spacial Analyst





Supervising Engineer Simon Rodgers and his team provided floodplain advice during the Kimberley floods emergency

Service 2 Water planning, allocation and optimisation

Water allocation plans

Water allocation plans are the department's key water policy documents. They establish how much water is available from rivers and aguifers in an area, how much is set aside for the environment and public drinking supply, and how much can be licensed sustainably to businesses and individuals.

The department prioritises allocation plans for key resources and conducts reviews of plans and allocation limits to reflect the climate, and the use and health of the resource.

► Gnangara groundwater allocation plan

Our Gnangara groundwater allocation plan is actively being implemented since its launch on 3 June 2022. It aims to rebalance the amount of water we take from the Gnangara groundwater system with the amount recharged by rainfall, which is being impacted by climate change.

This will be achieved by Water Corporation reducing its baseline abstraction by 27 per cent and most other licensed groundwater users receiving a 10 per cent reduction, which will start in the first water year after 1 July 2028. The department continues to work closely with Water Corporation in planning for this.



Learn more about the Gnangara groundwater allocation plan on

Many aspects of the Gnangara plan are implemented through Kep Katitjin - Gabi Kaadadjan.

These include:

New waterwise standards for nurseries and tree farms

Seasonal Be Groundwater Wise campaigns helping garden bore users to adapt their gardens to the sprinkler roster change

The Gnangara Waterwise Councils grants program

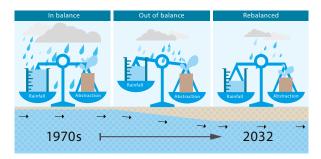
The Gnangara Horticulture Water Use Efficiency grants program

Other opportunities to support communities to adapt to climate change

The Gnangara Waterwise Councils grants program was announced on 19 October 2022 and offers a total of \$4 million to assist nine local governments in the Gnangara Plan area that are most impacted by the urban heat island effect.

The funding, starting in the second half of 2023. will assist them to carry out projects such as irrigation system upgrades and implementation of water sensitive urban design principles in public open spaces.

Under an expansion of the Gnangara Horticulture Water Use Efficiency grants program, announced on 20 October 2022, funding is available for eligible horticultural and viticultural businesses for a suite of water use efficiency activities. This consists of grants to implement water use efficiency infrastructure, grants to implement soil amelioration activities, and a voucher program to engage a water-efficiency expert for specialist advice. This project is in partnership with DPIRD.



The Gnangara Groundwater Allocation Plan aims to rebalance the amount of groundwater we take from the system

► Murray groundwater allocation statement

The Murray groundwater area allocation statement, released in December 2022. describes our review of allocation limits in the Murray groundwater area. The statement sets new allocation limits for all Superficial aquifer resources in the area as well as the deeper Leederville and Cattamarra Coal Measures resources in the Nambeelup subarea.

The revised limits are based on information gathered since the 2012 Murray groundwater allocation plan was published, including technical studies completed as part of the Peel Integrated Water Initiative. These studies recommended the 2012 allocation limits be reduced because of climate change and less recharge to aquifers in the area.

The Murray groundwater area allocation statement delivers on action 20 of Kep Katitjin - Gabi Kaadadjan, which is to review allocation limits across Perth and Peel to manage groundwater levels sustainably.

Key outcomes of the Murray groundwater allocation review

Taking groundwater up to the limits set in the 2012 plan is no longer sustainable as the climate continues to become drier and hotter.

Allocation limits are reduced to lower the risks to groundwater-dependent ecosystems and cultural values while allowing supply to existing groundwater users to continue over the next 10 years in a sustainable manner.

The new limits do not affect current licensees; however, they will limit future groundwater availability.

We will review the Leederville and Cattamarra resources of the Coolup, Pinjarra and Waroona subareas after the Murray-Peel groundwater investigation is completed in late 2024.



► Warren and Donnelly river catchments

The Warren-Donnelly region, in the south-west of Western Australia, is one of the state's most important irrigated agricultural areas. The industry relies on reliable access to fresh surface water flows captured in farm dams for irrigation over drier periods.

The department supported the Southern Forests Irrigation Reference Group to look at measures to increase water security for the horticulture industry. We also work closely with the Warren Donnelly Water Advisory Committee to explore resilience to climate change.

We are undertaking investigations to identify climate-resilient habitats for aquatic species and improve our understanding of how flow regimes support environmental values. This includes a three-year project with the National Environmental Science Program exploring ecological and Indigenous values in the Donnelly River.

Other important work in the area includes:

- · expanding the known ranges for aquatic species through our river health assessments
- · understanding the dry-season habitat and movement of the vulnerable. conservation-listed mud minnow in the Manjimup Brook catchment.

This work will be important for developing the next Warren-Donnelly surface water allocation plan.

▶ Exmouth

The department has begun the technical work to review groundwater allocation limits and how we manage the take of water from the Exmouth peninsula. This work supports the Exmouth Gulf Taskforce, which will advise the Minister for Environment on the environmental management of Exmouth Gulf and its surrounds.

Through the Exmouth Gulf Taskforce we are talking with Traditional Owners, represented by the Nganhurra Thanardi Garrbu Aboriginal Corporation, to recognise and integrate their views on cultural values and connection to water and sea in our work.

We are working with Water Corporation to better understand the groundwater resources of the Exmouth peninsula and guide its investigations into future sources of water to supply drinking water for the town of Exmouth.

Our allocation limit review will apply a risk-based approach using updated climate projections and our improved understanding of the fresh and saline groundwater resources. Part of the review will be recognising the unique and interconnected water-dependent ecological, cultural and social values, and ensuring enough water remains underground to protect or restore these values.

▶ Derby

The comprehensive submissions received on the Derby groundwater allocation plan: For public comment, released in November 2020, showed us the value of continuing conversations with Traditional Owner groups, Water Corporation, licensees and the community to improve knowledge sharing and further shape the plan before it can be finalised.

A public forum was held in Derby, in collaboration with the Shire of Derby-West Kimberley and Water Corporation, on 27 October 2022 to share our technical science and what we heard from the public submissions.

We are also working with Water Corporation to improve seawater interface monitoring on the Derby peninsula. This will support the continued use of groundwater. It will help us identify when action may be needed to reduce abstraction to maintain the naturally occurring interface which protects the town's drinking water supply.



Senior Natural Resource Management Officer Mark Williams sets up measurements at Warren River

Water investigations

The department investigates, measures and quantifies the state's surface and groundwater resources. This information is used in water allocation, licensing and source protection, as well as in the setting of environmental water provisions.





► State Groundwater Investigations Program

The State Groundwater Investigations Program (SGIP) undertakes targeted groundwater investigations to ensure government and industry have timely and accurate knowledge of water resources suitable for drinking, agriculture, horticulture, mining and industry.

A competitive job market for groundwater professionals has resulted in employment challenges for the department. While this has delayed delivery on several projects, the SGIP has still achieved significant outcomes.

In 2022–23 it spent \$2.986 million supporting 12 active groundwater investigation projects.

Water investigations: highlights

Pawsey supercomputer

Development of the Perth Regional Aquifer Model version 3.6 to run on the Pawsev supercomputer; more than 600 different groundwater management scenarios can be run in the time it previously took for a single model run, providing better management outcomes for the high-priority Gnangara, Jandakot and Serpentine groundwater areas.

Aboriginal collaboration

Continued collaboration with the Karajarri Traditional Lands Association (KTLA), including ecological fieldwork and co-authoring a presentation at the Australasian Groundwater Conference in November 2022. The SGIP also sponsored KTLA Rangers to attend and co-present at the 2023 Western Australian Wetland Conference.

Groundwater telemetry

Completion of a successful three-year trial of groundwater telemetry to select technical solutions for upgrades to 1,300 high-priority monitoring bores.

Swan Valley program

Progression of the Swan Valley - North-East Corridor drilling program, with implications for future water allocation in this mixed rural and urban development front. A key output of this is to support managed aquifer recharge prospectivity mapping, to evaluate alternative water supplies in this water-constrained development front in response to demand and the drying climate.

Seawater interface projects

Continuation of three seawater interface projects in La Grange (Kimberley), and Myalup and Bunbury-Busselton (South West) to understand the extent of seawater intrusion into some of our most important coastal freshwater aguifers.

Water source protection

The department is responsible for protecting about 140 public drinking water source areas from contamination. We work with different groups including State Government agencies, local governments, Traditional Owners, landowners, mining, industry and the community to make sure that our drinking water drawn from these sources is safe and reliable.

Drinking water source protection reports help us do this. These reports tell us where the boundaries are for each water source, which areas are most important to protect, and what we need to do to keep them safe. Currently all active drinking water source areas are covered by protection reports.

Water supply planning

The department is leading a Stage 2 assessment for the Perth and south-western coast water security initiative, which was added to Infrastructure Australia's Infrastructure Priority List in 2020-21.

The listing recognises that growth in water demand and the impacts of climate change across the Perth Groundwater Basin is a problem but also an opportunity of national significance. The Stage 2 assessment completed in 2022-23 included consulting across government on a strategic review and benefit-cost analysis of infrastructure and non-infrastructure options to

meet the non-potable water needed for the Perth and Peel region by 2050.

This work is helping to guide government and industry in preparing non-potable water supply proposals to be ready for investment according to the Infrastructure Australia assessment process.

The department also works with local government and industry to resolve future non-potable water demands where there is limited groundwater available for urban development, peri-urban agriculture and heavy industry.

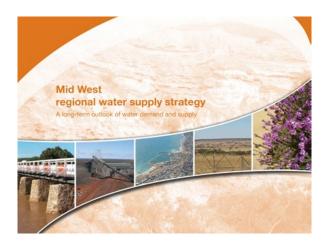
In 2022-23 we completed the Serpentine-Jarrahdale water supply-demand situation assessment, which estimates the shortfall in groundwater to irrigate future green spaces after demand management and water entitlement transactions are undertaken.

The assessment is the initial step to identifying preferred options for additional water supplies.

An evaluation of the *Mid West regional water* supply strategy was also undertaken in 2022–23, in consultation with Mid West Regional Development Commission and Water Corporation.

This reviewed recent water use trends and updated long-term projections of demand based on scenarios for industry development and population growth. Long-term climate change projections indicate a continued reduction in the volume of groundwater that is sustainable to be taken in the Mid West region, so much of the projected growth in water demand will need to be met by alternative sources including seawater desalination.





Waterwise actions and plans

State Government agencies are supporting our efforts to expand the reach of our Waterwise programs and actively address the impacts of climate change. Along with our department, 10 other agencies are involved in Kep Katitjin – Gabi Kaadadian.

These are the departments of Communities: Finance; Planning, Lands and Heritage; Local Government, Sport and Cultural Industries; plus Water Corporation; DevelopmentWA and METRONET. We also welcome new partners, the departments of Education; Biodiversity, Conservation and Attractions; and Primary Industries and Regional Development.

Department of Water and Environmental Regulation Department of DevelopmentWA Education Department of Local Government, Department of Sport and Cultural Communities Industries Department of Primary Industries Department of and Regional Finance Development Department of Biodiversity, Water Corporation Conservation and Attractions Department of Planning, Lands METRONET and Heritage

This group of agencies is delivering 41 actions in the plan. Our department leads 18 of these and supports a further eight.

In this work, we value the input of our country's Aboriginal Traditional Owners and Custodians.

Through the department and Water Corporation-managed Waterwise Councils program, the majority of



local governments in Western Australia are now leaders and champions of waterwise behaviour. Along with the development industry, they work to design and implement steps to use water more efficiently, while maintaining the amenity and liveability our communities need, as we adapt to climate change.

▶ Be Groundwater Wise

The department's Be Groundwater Wise behavioural change campaign is part of Kep Katitjin – Gabi Kaadadjan. It shows how far we have come as a community and the inroads we have made in conserving groundwater resources.

In 2022–23 our spring and autumn awareness campaigns for Perth gained more than 15 million online impressions. There were also more than 420.000 views of a series of videos created with gardening guru Sabrina Hahn to help garden bore owners get ready for summer.

Drainage for Liveability

The Drainage for Liveability Program is a joint initiative with Water Corporation that supports a waterwise Perth. We are working with community groups, local government and the development industry to transform stormwater drains and basins to increase the social and environmental value of these spaces in our urban environment.

We seek to provide joint positions and advice to stakeholders and develop agreed recommendations for technical and policy-related aspects of drainage management.

The Drainage for Liveability guidance note series provides an integrated approach to drainage management, focusing on opportunities to maximise community and environmental benefits.



Watch Sabrina Hahn discuss our precious groundwater on YouTube

Waterwise achievements

from October 2019 to June 2023



179,000 waterwise plantings

creating biodiversity and cooling our suburbs.



22 feasibility studies

completed
to identify
appropriate
water supplies
for urban green
space in areas
with limited or
no groundwater
availability.



6,779 trees planted

reducing urban heat in our suburbs.



31 Water Corporation assets

and surrounding land transformed into neighbourhood green spaces, such as living streams, wetlands, community gardens, nature corridors or parkland.



100% Boorloo and Bindjareb councils

recognised as waterwise and 88% recognised as gold waterwise councils.



120,450 students

participated in the Waterwise Schools program.



12,000 million + litres of water saved

which includes:

▶ 373 million litres

saved by retrofitting public housing with water-efficient fixtures

► 683 million litres

saved through programs to help households adapt to climate change

▶ 11,360 million litres

saved by business and industry by improving their water use practices.















Rural water planning

Ensuring our rural communities are resilient to climate change remains a major priority for the department. Our suite of programs is focused on providing secure and reliable emergency non-potable off-farm supplies for regional townscapes and emergency firefighting in the dryland agricultural region of Western Australia.

The department provides assistance through the following programs:

► Community Water Supplies Partnership Program (CWSP)

The program provides grants of up to \$100,000 to local governments or community groups for projects to improve non-potable water supplies in dryland agricultural areas receiving less than 600 mm average annual rainfall and for use in times of emergency for stock and fire fighting.

The CWSP program is supported by \$3.2 million in funding over four years by the Australian Government's National Water Grid Fund and the State Government.

In 2022–23 the State Government approved 26 CWSP grants, totalling \$2,181,245 in funding for regional communities. Contributions from LGAs amounted to \$1,111,361 for total funding of \$3,292,606.

Approved CWSP applications 2022-23

LGA	Number of projects	CWSP grant \$	LGA contribution	Total
Brookton	2	\$147,967	\$63,415	\$211,382
Dandaragan	1	\$85,000	\$85,000	\$170,000
Dowerin	1	\$88,509	\$37,887	\$126,396
Dumbleyung	1	\$100,000	\$47,425	\$147,425
Esperance	1	\$99,554	\$59,876	\$159,430
Gnowangerup	1	\$42,270	\$21,000	\$63,270
Irwin	1	\$100,000	\$54,401	\$154,401
Kondinin	1	\$90,331	\$38,713	\$129,044
Lake Grace	2	\$196,574	\$85,129	\$281,703
Merredin	2	\$199,021	\$115,643	\$314,664
Moora	2	\$200,000	\$129,917	\$329,917
Morawa	1	\$53,728	\$24,600	\$78,328
Narembeen	1	\$85,000	\$37,800	\$122,800
Narrogin	1	\$75,600	\$35,000	\$110,600
Perenjori	1	\$62,754	\$28,500	\$91,254
Pingelly	1	\$97,365	\$45,300	\$142,665
Toodyay	1	\$73,897	\$31,670	\$105,567
Victoria Plains	1	\$89,667	\$38,428	\$128,095
Wagin	1	\$78,593	\$37,010	\$115,603
Williams	1	\$24,372	\$12,186	\$36,558
Woodanilling	1	\$99,975	\$43,004	\$142,979
Yilgarn	1	\$91,068	\$39,458	\$130,525
Total	26	\$2,181,245	\$1,111,361	\$3,292,606

Feature story

Strategic and Agricultural Area Dams

This program is delivering a network of 70 strategic community water supplies across the dryland agricultural areas of our state to provide important emergency stock water supplies during dry seasons. This \$7.3 million program is supported by joint funding from the State Government and the Australian Government's National Water Grid Fund over four years.

▶ Water deficiency declarations

Water deficiency declarations are implemented by the State Government during dry periods in our agricultural regions, to address emergency animal welfare needs. Under a declaration, the State Government will provide water for livestock needs at a central storage point, within a 40 km radius of the farms impacted.

► Farm Water Supply Planning Scheme

This program provides a rebate to commercial broadacre farmers to fund an audit which can identify ways to improve the sustainability of their water supplies. Eligible farmers may apply for funding of up to \$1,000 to cover 50 per cent of the audit cost.

Stormwater harvest brings Narrogin turf to life

Stormwater previously ran down May Street in Narrogin but a new stormwater catchment dam through the CWSP will top up existing irrigation wastewater supplies and transform the town's main sports oval.

The project harvests an additional 147.7 megalitres (ML) of water a year to the new dam, which has a 20 ML capacity. This water supplements the shire's treated wastewater irrigation scheme, which is used to irrigate the town sporting oval and other townscapes and recreational reserves.

The Narrogin community benefits from a quality oval with better useability, and a reduction in flooding on Eston and Federal streets.

The CWSP program is funded through a collaboration between the Australian Government's National Water Grid Fund and the State Government.





Water Minister Simone McGurk, third from left, at the opening of the catchment dam

Rivers and estuaries

► Healthy Rivers

Our Healthy Rivers program monitors more than 150 river and stream sites across south-west Western Australia, and undertakes additional assessments as required.

This work helps us identify the ecosystem values that need protection, monitor threats and impacts, and evaluate ecosystem responses.

In 2022-23 the Healthy Rivers team undertook assessments at 74 sites from as far north as Moore River down to the



Warren River on the south coast. Details of these assessments will soon be available through the Healthy Rivers website.

► State fish kill response

In 2022–23 the department responded to 11 fish kill reports within inland waters and supported DPIRD with another 10 events recorded in marine waters.

Events were spread across Western Australia and included one in the North West, four in the Mid-West Gascoyne, and two each in the Peel, South West, and Swan Avon regions.

Most fish deaths were attributed to poor water quality occurring through the dry season, typically because of low dissolved oxygen. Rainfall events, which wash organic material into systems and stir up sediments, were linked to several of these events.

► River restoration partnership

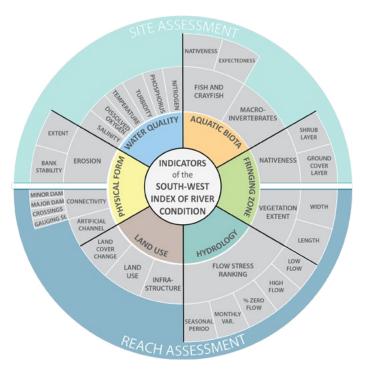
The department has been supporting a significant restoration program to restore habitat to the Harvey River, and in doing so build ecosystem resilience to a drying climate.

A key part of the project is re-snagging, which is bringing large woody debris back to a system that was previously cleared and straightened to increase drainage.

Through careful design and flow-response modelling, the project has improved ecosystem health without increasing flood risk. The debris provides physical habitat for aquatic species,







Other

promotes riffling (oxygenation) and creates deeper scoured areas which offer permanent cooler water refuges for aquatic species.

Our role has been in habitat design and supervision of the installation, as well as long-term monitoring of water quality response. We have been working closely with the Harvey River Restoration Taskforce under their Marron More than a Meal program, members of the Harvey Aboriginal Corporation, Murdoch University, Peel Harvey Catchment Council, Water Corporation and Greening Australia.

Biological monitoring by Murdoch University has already shown amazing results, with the return of marron along with large freshwater cobbler and nightfish, which were not previously found in the area.

▶ New species of crayfish identified

One of the key directions we have in environmental management is to protect biodiversity.

Through a collaboration with Edith Cowan and Curtin universities, we have been looking at genetics of the endemic crayfish found in rivers across the south-west of Western Australia. This information helps in setting management priorities and water regime requirements that will protect these species' habitats.

Through this work we have identified three new freshwater crayfish species which are part of the Cherax genus. We refer to them as 'Cherax nov (novel)' as an interim name.

► Evaluation of discharge measurement structures

Measuring discharge in our rivers is critical for our management of waterways and water resources, and the ecosystems that rely on them.

Discharge management structures built by the department are important components of our data-gathering network, capturing information on water moving through the landscape. We undertake an ecological monitoring program to optimise the discharge measurement structures' design, minimising risk to ecological value and maximising accurate water measurement.





Introducing our new friend, 'Cherax nov (novel)'



Manjimup gauging station

▶ Protecting freshwater species from toxins

During 2022–23 we progressed our pioneering work in the development of ecotoxicological tests to assess water quality risks to aquatic ecosystems in the state's south-west.

These tests are designed to assess the tolerance of local species, under local conditions, to specific chemicals or mixtures of chemicals in effluents.

Cladoceran INLLIFECYCLE POP. GROWN SOUTH-WEST WA **ECOTOXICOLOGY TEST SUITE** 72 h

Phytoplankton

This work enables the department and proponents to:

- better determine environmental risks from new development proposals
- establish relevant water quality guidelines and related licence conditions on discharges
- monitor ecosystem responses and adapt our management decisions accordingly.

In the past, this process was only achieved using information from species that occur in other parts of Australia or internationally, which carries a level of uncertainty regarding how local species will respond.

The south-west test suite will soon be available for commercial use. It is hoped that similar test suites can be developed for other Western Australian regions.

Estuary protection

Our work to improve the health of estuaries across south-west Western Australia continues through Healthy Estuaries WA, Revitalising Geographe Waterways and the Bindiareb Diilba (Peel-Harvey estuary) Protection Plan.

These programs work in seven priority estuaries and their catchments: the Peel-Harvey estuary, Leschenault Estuary, Vasse-Geographe waterways, Hardy Inlet, Wilson Inlet, Torbay Inlet and Oyster Harbour.

We monitor water quality regularly at 174 locations across our seven focus estuaries and their catchments. Since Healthy Estuaries WA began in 2020, we have completed 32 seagrass surveys. Along with catchment and estuary numerical modelling and ecological expertise, this monitoring effort directly informs management actions that are reducing nutrient inputs to our waterways.

Our innovative remediation work to address existing loads of nutrients is underway with 11 soil amendment trials on farms in progress, and two trials of phosphorus-binding clays in waterways in planning stages.

Our work on nutrient management on grazing farms, in partnership with local catchment groups and DPIRD, continues to have strong participation and outcomes from farmers. Since 2020 we have completed 501 whole-farm nutrient maps from soil testing and had more than 1,400 participants at sustainable agriculture events.

In 2022 we launched *Nutrient best management* practices for grazing enterprises in south-west WA, which provides locally relevant, practical guidance to farmers to reduce nutrient loss, saving them money and reducing impacts on the environment. We are also progressing work with Western Dairy to support dairy farmers to implement the <u>Code of Practice for Dairy Farm</u> Effluent Management WA.

.... The collaborative uPtake project, supported by Healthy Estuaries WA and the Australian Government's National Landcare Program. concluded in 2023. Four years of on-farm fertiliser trials delivered through

the project have validated that the national critical values which underpin phosphorus fertiliser recommendations are appropriate for soils in south-west Western Australia and contemporary pasture species. This builds farmer and industry confidence in nutrient management recommendations to

support best practices that reduce nutrient loss to waterways and our estuaries from fertilisers applied on farms.

The Bindiareb Diilba (Peel-Harvey estuary) Protection Plan is in its second year of implementation, with strongly positive engagement from key stakeholders and funding

> Government election commitment. The Policy and Planning Committee - co-chaired by Hon David for Mandurah, and Lisa Munday MLA, Member for Dawesville - is established and meeting regularly to progress priority actions to protect the estuary. The Protection Plan is supporting partnerships with Bindjareb Noongar

Traditional Owners, including through an Aboriginal-led yarning circle and cultural mapping.

support from a State Templeman MLA, Member





Dairy farmer Rob Giura and Senior Environmental Office Brad Degens inspect a soil amendment trial

Science communication about our estuaries is a critical part of these programs. We have published 20 science publications since 2020 along with up-to-date and interactive online information and presentations at annual community science forums. In 2022-23 more than 260 community members joined us to learn about estuary water quality and catchment management at community events.



Our innovative remediation

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Overview

Service 3 Water regulation, licensing and industry governance

Water licensing

Administering the sustainable and equitable take of water through the *Rights in Water and Irrigation Act 1914* (RIWI Act) ensures our water resources are protected. Water licences issued by us set the volume of water that can be taken, what water resource it can be taken from, where it can be used and for what purpose.

At 30 June 2023, we managed 12,767 water licences across 775 groundwater and 413 surface water resources. These licences authorise the ◀⋯⋯ taking of 4,259 gigalitres (GL) of water – 3,251 from groundwater resources and 1,006 from surface water resources.

In certain areas, the construction of water-use infrastructure including bores and dams, and the disturbance or interference of the beds and banks of watercourses, are also subject to authorisations requiring licences and permits. As at 30 June 2023, there were 870 licences to construct and alter groundwater wells and 422 permits to interfere with beds and banks granted across the state.

Please note: The sector volumes (both individual and totaled) in each of these charts have been subject to rounding. Total licensed volume by sector Agriculture: 673 GL (16%) Commercial and institutional: 369 GL (9%) Industry and power generation: 131 GL (3%) Irrigation scheme supply: 440 GL (10%) Mining: 1,890 GL (44%) Parks, gardens and recreation: 109 GL (3%) Public water scheme supply: 580 GL (14%) Other*: 68 GL (2%) *Other contains environment and conservation, and stock and domestic. Groundwater licensed volume by sector Agriculture: 467 GL (14%) Commercial and institutional: 367 GL (11%) Total Industry and power generation: 101 GL (3%) Mining: 1,871 GL (58%) 3,251 GL Parks, gardens and recreation: 107 GL (3%) Public water scheme supply: 259 GL (8%) Other*: 81 GL (2%) *Other contains irrigation scheme supply, environment and conservation, and stock and domestic. Surface water licensed volume by sector Agriculture: 206 GL (20%) Industry and power generation: 30 GL (3%) Total

Irrigation scheme supply: 425 GL (42%)

Public water scheme supply: 321 GL (32%)

Western Australia's water users by sector (allocated volume)

*Other includes stock and domestic, commercial and institutional, environment and conservation, and parks, gardens and recreation.

Mining: 19 GL (2%)

Other*: 6 GL (1%)

1,006 GL

In 2022–23 the water licensing target timeframes for average application processing (65 days low risk, 75 days medium risk and 95 days high risk) were met for all application risk categories. The average assessment timeliness performances for low, medium and high-risk water licence applications were 44 days, 56 days and 85 days, respectively, remaining well under established targets.

As at 30 June 2023, there were 364 water licence applications in backlog. The 2021-22 backlog result was 265, meaning there was a 37 per cent increase in the backlog. This is above the target threshold of 350 applications. The department is exploring this growth in backlog and options available to address the increase, both in the immediate and long term.

Water Online

Water Online remains our one-stop portal for water licensing. It allows water users to lodge water licence and permit applications, and for licensees and permit holders to submit reports and meter readings.

The percentage of portal users continues to rise and 50 per cent of applications were 4..... submitted online in 2022-23, with 1.810 new users registering during the year for a total of 9.346 users.

Water compliance and enforcement

As at 30 June 2023, 6,204 water licences representing 4,171.4 GL of water were subject to metering and alternative measurement requirements under the Rights in Water and Irrigation Regulations 2000.

Our regulatory work includes educational and behavioural support as well as compliance and enforcement activities that ensure legal requirements are being followed. When necessary, formal action is taken for breaches of these requirements.

Support mechanisms are made available to licensees which promote self-regulation of the terms and conditions of water licences. For example, by using Water Online licensees can receive reminder notices of due dates for report submissions, and input meter details to keep track of monthly and annual water use.

The department licenses more than 227 types of business activities and categories. These include:



irrigation uses such as horticulture, parks and gardens



business uses such as bottling and dairy production



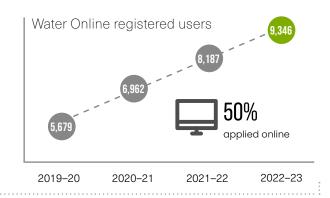
small business uses such as cleaning and food processing



mine and construction de-watering



public water supply



Compliance monitoring consists of on-site visits and remote monitoring activities. In 2022–23 we undertook 175 compliance inspections and water meter audits, and conducted 1.121 desktop water use surveys and 502 reviews of submitted compliance reports. We also processed 4,569 abstraction volume submissions and meter reading submissions.

As an outcome of these monitoring activities. 4,867 incident reviews and investigations were undertaken, and we responded to 303 confirmed incidents of non-compliance with a combination of statutory and non-statutory enforcement actions. We issued 202 letters of education, 60 warning notices and 36 infringement notices, and gave three statutory directions.



inspections and audits



water use surveys



502 reviews of reports



4.867 incident reviews and investigations



202 letters of education



60 warning notices



36 infringement

Garden bore watering restrictions

The department, in partnership with Water Corporation, regulates domestic garden bore use. In Perth and Mandurah, starting on September 1 2022, domestic garden bore owners were reduced from three rostered watering days to two rostered days a week to align with scheme water users. Elsewhere in the state, garden bores can be used once a day between certain times.

The department has worked with Water Corporation in educating users about the new sprinkler roster. The campaign started with no formal enforcement action undertaken for watering detected on a third rostered day. Education letters were issued instead to support behavioural changes, with 228 being issued from 1 September 2022 to 30 June 2023.

The change to the watering roster will reduce the amount of groundwater used each year by about 30 GL - the equivalent to 30 Optus Stadiums full of water - and will help to slow or reverse some of the groundwater level declines we have experienced in recent decades.

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- and will help to slow or reverse some of the groundwater level declines we have experienced in recent decades.

Over the next 12 months we will continue to focus on education to help garden bore owners adapt to the two-day-per-week roster change and allow them time to implement waterwise measures for their gardens.

Households and businesses across Perth. Mandurah and parts of the South West and Great Southern regions are also subject to the annual winter sprinkler switch-off. This is a permanent water-efficiency initiative requiring scheme and bore users to turn off garden reticulation from 1 June to 31 August.

For alleged garden bore watering restriction offences during the past financial year, not related to the reduction to two watering days a week, the department issued 104 warning notices and 170 infringements.







Overview

Priorities

Water services

State Government-owned water utilities Water Corporation, Busselton Water Corporation and Bunbury Water Corporation (Aqwest) are established under the *Water Corporations Act 1995*.

The Water Services Act 2012 provides powers to enable licensed service providers including the water corporations to deliver water supply, sewerage, irrigation and drainage services. In addition to the three utilities, there are 20 other licensed water service providers in WA comprising two local governments, four irrigation cooperatives, four mining companies, nine developers and the Rottnest Island Authority.

The Water Services (Water Corporations Charges) Regulations 2014 and the Water Services Regulations 2013 are amended annually to publish the fees and charges for Aqwest, Busselton Water and Water Corporation. The department is responsible for amending the regulations, in consultation with the three water corporations, so they take effect from the beginning of each financial year.

We continue to work closely with Water Corporation in its new role from 1 July 2023 as the water and sewerage service provider to regional Aboriginal communities, under the *Water Services Act 2012*. Water Corporation has started a program of service upgrades and we are assisting it to meet its regulatory obligations, including wastewater treatment plant licensing, native vegetation clearing permits, water resource licensing and public drinking water source protection.



Managing public water supply

The department regulates Water Corporation by licensing it under the RIWI Act to take groundwater from the Gnangara and Jandakot groundwater systems to supply Perth's Integrated Water Supply Scheme.

Under the 2022 Gnangara groundwater allocation plan, Water Corporation's abstraction from the Gnangara groundwater system for the Integrated Water Supply Scheme will be reduced by 30 GL per year in 2028. To supplement this reduction, Water Corporation has proposed a new 100 GL per year desalination plant at Alkimos, with the first 50 GL stage expected by 2028.

Water Corporation has proposed a **new 100 GL/year desalination plant at Alkimos**, with the first 50 GL stage

vith the first 50 GL stagi expected by 2028.

The proposal comprises a seawater desalination plant and groundwater treatment plant next to the existing Alkimos Wastewater Treatment Plant, within the future Alkimos Water Precinct, and an associated 33.5 km pipeline connecting the desalination plant to Wanneroo Reservoir. On 24 May 2023, following a Public Environmental Review, the EPA recommended that the proposal may be implemented subject to conditions.

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We continue to work with Water Corporation to annually revise and improve abstraction patterns, ensuring less groundwater is taken from the most sensitive areas of the Gnangara and Jandakot groundwater systems.

We have also supported Water Corporation to develop its groundwater replenishment scheme, which is a climate-independent water source. Groundwater replenishment involves treated wastewater being further treated to drinking water standards and then recharged into aquifers for later use as public water supply.

Water fees

Fees for water licence and permit applications have been in place for the mining and public water supply sectors since 2018.

In 2022-23, we spent \$14,635,920 on the assessment of all water licence and permit applications, and collected \$1,224,228 in fees from 2.165 licensees for 492 assessments of applications.

Water policy

► Spring exemptions guidelines

In April 2023 the department published the Guideline: Spring exemptions following a five-month public consultation period. All feedback was considered in finalising the guideline.

This guideline and associated field guide provide information for landowners or occupiers of land on the requirements for determining whether a spring rising on a property is exempt from regulation under the RIWI Act.

It clarifies interpretation of section 5(1)(a) of the Act by establishing a voluntary self-assessment process and is available for implementation by landowners or occupiers of land to guide self-assessment of the sometimes-complex hydrological considerations to determine a spring exemption.

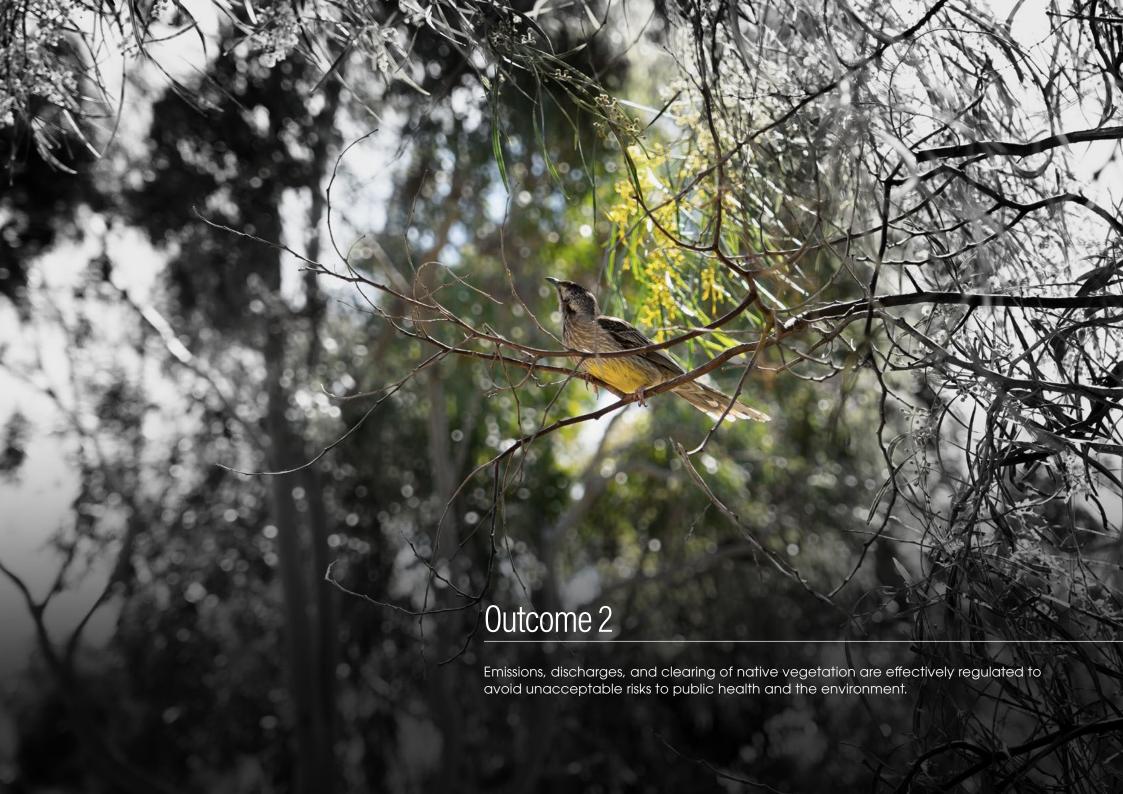
▶ Water Reform Bill

The Western Australian Climate Policy, released in November 2021, outlines the State Government's commitment to an improved legislative framework for water resources management, to address the challenges of climate change and to provide certainty for water users.

Industry has been engaged in the modernisation of water legislation since 2007 through numerous consultations. The Water Reform Bill will consolidate and replace six Acts, including Acts which are more than 100 years old.

The proposed legislation will play a key role in allowing the department to manage water more effectively and provide essential tools to manage water resources affected by climate change while also supporting State Government priorities such as jobs and economic growth.



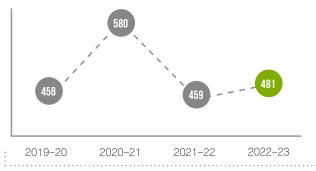


Service 4 Environmental regulation

Industry regulation

In 2022–23 the Industry Regulation Division received 612 applications for licences, works approvals and amendments, a 4.6 per cent increase when compared with the previous year. The department continues to experience a high application workload attributed to the growth in the state's mining, oil and gas, industrial, renewable, intensive agriculture, and food and beverage sectors. This continued the trend across the two preceding financial years.

Determined applications



This year there was a rise in the number of applications determined (481) compared with the previous year (459), indicating the success of several performance improvement initiatives introduced in late 2022. Consequently, open



applications determined

applications under assessment

applications under assessment remained steady, with 276 as at 30 June 2023 compared with 280 at the same time last year.

There was a continued focus on reducing backlog applications and assessment timeframes. Backlog applications reduced to 73 in 2022-23, down by 11 in 2021-22 and reaching some of their lowest levels since 2020. The average processing timeframe for the year was 78 working days, down on last year (80).

Labour shortages have continued to place pressure on all sectors, including Industry Regulation, and the department has observed a high demand from the private sector for environmental professionals with regulatory approvals experience.

The agribusiness sector continued its growth, driven by market opportunities, State Government grants, incentives and support programs. Applications received are expected to continue to rise for premises such as cattle and sheep feedlots, piggeries, feed mills, abattoirs and rendering facilities, milk processing and beverage manufacturing. We are working closely with other departments in coordinating a cross-government regulatory response to surges in new and existing brewery and distillery facilities.

The Industry Regulation division's Major Projects team was established in the 2021-22 period to streamline assessments for applications referred through the Lead Agency Framework along with other applications of state or strategic significance.

In 2022–23 there were increases in both application assessment work and projects granted major approvals status under the framework,

particularly in sectors such as critical mineral mining and processing as well as projects within the iron ore and oil and gas industries. Continued growth is expected into 2023-24 and beyond, with more than 60 projects on track to lodge applications.

The division has finalised a number of initiatives. including a tailings storage facility (TSF) application checklist, providing further clarity for applicants proposing new TSFs, and the Guideline: Better practice organics recycling.

The passing of the *Environmental Protection* Amendment Act 2020 offers the opportunity for a reform of the regulation of emissions and discharges under Part V of the EP Act. The discussion paper Environmental regulation reform - A strategic review of regulatory delivery and fees for Industry Regulation was released in September 2022, inviting feedback. The department has

Environmental regulation reform A strategic review of regulatory delivery

heard the feedback, gauged a strong appetite for change and considers this a basis and mandate for progressing the reforms. A position statement will be released later in 2023.

Port Hedland dust management

Implementation of the department's 2021 Port Hedland Regulation Strategy continued in 2022–23. The department engaged with industry on its third-party consultant's report, Port Hedland Dust Management Program: Best Practice Guideline, and progressed work on the development of the Dust Management Guideline, which is expected for release in the 2023-24 period to meet a key commitment of the strategy.

The department completed its first full year managing the ambient air quality monitoring network in Port Hedland after it was transferred



from the Port Hedland Industries Council. We are committed to continued regulatory activities to ensure the ongoing active management of dust in Port Hedland.

Native vegetation clearing

► Clearing permits

The department received 260 native vegetation clearing permit applications in 2022-23, about 13 per cent fewer than in 2021-22.

We have continued to work to reduce the number of backlog applications and improve response timelines. As a result, the percentage of applications decided within a timeframe of 60 working days has improved slightly, from 49 per cent in 2021-22 to 53 per cent in 2022-23. The average number of working days taken to make a decision has remained steady, at 71 days in 2021–22 and 2022–23.

The number of open applications has remained relatively steady over recent years. As at 30 June 2023, there were 193 open applications with the department. applications

Clearing permit applications in the South West, Perth-Peel and Wheathelt regions made up 48 per cent of decisions made in 2023–23. Applications in these regions fall within the intensive land use zone, where

historic clearing has been extensive, resulting in increasingly complex assessments because of the high environmental value of remnant vegetation. The consideration of new and improved science and ongoing change in the environmental context is leading the department to place greater scrutiny on the necessity for clearing and the types of environmental offsets proposed for clearing permit applications in these areas in particular. This is reducing the likelihood of approval of some types of clearing proposals and increasing the use of appropriate offsets where suitable.

The average time applications are in 'stop the clock' has increased, up from an average of 80 business days in 2021–22 to 110 in 2022–23. This reflects the need for applicants to spend additional time filling information gaps in applications, for example providing further detail on avoidance, minimisation and mitigation measures, conducting biological surveys and identifying suitable environmental offsets.



▶ Clearing referrals

Stakeholder uptake of the clearing referral process has significantly increased, from 109 referrals in 2021–22 to 166 referrals in 2022–23. Clearing referrals now make up 39 per cent of all requests for clearing approvals submitted to the department under Part V of the EP Act.

Performance outcomes for the clearing referrals process are consistent with its function as a streamlined approval pathway for clearing with very low environmental impacts. On average the department finalises clearing referrals within 17 working days. However, of the 275 referrals submitted since the

submitted since the pathway was implemented, only 109 were determined to not require a clearing permit for the proposed clearing, equating to a cumulative total clearing of about 22.89 hectares.



275
referrals
submitted



determined to not require a permit

Environmental compliance and enforcement

The department has wide-ranging statutory and regulatory responsibilities directed at achieving improved outcomes for public health, the environment and our water resources. We are committed to being a responsive and credible regulator by consistently applying and enforcing the legislation we administer. We use a range of

regulatory tools to promote, monitor and enforce compliance, and respond to breaches of the law.

We delivered our 2022–23 compliance program using a new, more integrated approach to our service delivery. The program included a proactive component, a responsive component and a focus on targeted priority sites. Our compliance program includes compliance with Ministerial Statements, activities regulated under Part V of the EP Act and a range of subsidiary legislation including the Environmental Protection (Unauthorised Discharges) Regulations 2004 and the Environmental Protection (Rural Landfill) Regulations 2002.

The department conducted more than 190 inspections in the financial year. We managed non-compliances identified

during our compliance monitoring programs, with 141 non-compliances identified from the waste levy and industry compliance inspections.





Under the Light industry

program, a partnership with local government, 113 inspections were conducted focusing on educating light industry operators about ways to reduce the environmental impact of their activities to minimise discharges of minor pollutants into the environment.

Our Pollution Watch service received 3,922 reports in 2022–23. The Pollution Watch hotline (1300 784 782) provides a 24-hour, seven-day-a-week service for the community, industry and other parties to



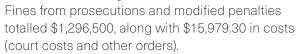


report pollution and a range of environmental matters.

Reports to Pollution Watch provide significant intelligence to the department and enable us to identify and respond to emerging issues. Our Pollution Response Unit responded to 220 incidents of emissions and discharges to the environment, including hazardous material waste fires, fuel tanker rollovers, chemical spills, asbestos-impacted structure fires and impacts to wildlife. Our priority response to incidents mitigates further damage to the environment and leads to better environmental outcomes. We work closely with other local and State Government agencies providing support to emergency management arrangements across the state.



Investigations were undertaken in response to pollution and intelligence reports, and information gained through our compliance programs, resulting in 14 successful convictions. nine infringements and 23 letters of warning issued.



Thirteen statutory notices were issued in the reporting period. Six Vegetation Conservation Notices were given under section 70 of the EP Act where it was suspected on reasonable grounds that unlawful clearing of native vegetation is likely to take place, is taking place or has taken place on the land. Seven notices were issued to prevent emissions and discharges to the environment likely to cause pollution or environmental harm.









infringements



23 letters of warning

Waste-related investigations

The department has responsibility for investigating waste-related offences under the EP Act, the Litter Act 1979 (Litter Act) and the Waste Avoidance and Resource Recovery Act 2007 (WARR Act).

The Waste Operations team has the capacity to investigate reports of illegal dumping and littering, and implements proactive initiatives including surveillance of illegal dumping locations. The department works with its program partners, including local governments, sharing intelligence and providing technical support and training in investigative techniques.

In 2022–23 investigations resulted in 25 people prosecuted for illegal dumping totalling \$187,400 in fines and \$131.537.95 in remediation costs. A total of 147 infringements and one letter of warning were also issued.



prosecuted



147 infringements



letter of warning



Tyre dumper

In 2022–23 our Waste Operations team started a major investigation into reports of large quantities of scrap tyres collected from mechanical workshops and tyre-fitting businesses around Perth being stored at rental properties and commercial storage facilities.

The department found more than 20,000 tyres were illegally stored at two properties in Wungong, storage units in Malaga and Maddington, and properties in Landsdale, Kenwick and Kewdale.

As a result of investigations, a Lockridge man pleaded guilty to 18 charges: one relating to causing pollution; six relating to the illegal discharge of waste; four relating to discharging waste without relevant approvals; and seven for transporting waste without relevant approvals.

The penalty was a fine of \$95,000, reparation costs (to pay property owners for the clean-up) of \$127,288.95 and court costs of \$12,826.60, a total of \$235.115.55.







As a result of investigations, a Lockridge man pleaded guilty to **18 charges**: one relating to causing pollution; six relating to the illegal discharge of waste; four relating to discharging waste without relevant approvals; and seven for transporting waste without relevant approvals.

Performance

Priorities

Waste levy

The WARR Act provides for a levy to be paid on waste received at licensed landfills in the metropolitan region, and waste collected within the Perth metropolitan region that is disposed of to landfill. The waste levy plays a key role in achieving the objectives of Western Australia's Waste Avoidance and Resource Recovery Strategy 2030 (waste strategy) by providing a disincentive to dispose of waste to landfill and by generating revenue to fund programs which support the strategy.

The department investigates levy avoidance as it can undermine the development of a sustainable, low-waste and circular economy. The WARR Act provides for significant penalties, including treble the amount evaded or attempted to be evaded.

In 2022–23 the department identified three priority areas of waste levy compliance, levy avoidance, and compliance with levy exemptions. As part of our waste compliance program 131 inspections were conducted at landfills and associated waste industries, resulting in several ongoing investigations.

131
waste compliance inspections

Controlled waste

The department regulates the transportation and storage of controlled waste in Western Australia through the Environmental Protection (Controlled

Waste) Regulations 2004 and the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure. We license controlled waste carriers, drivers and vehicles transporting controlled waste on roads in Western Australia, and track controlled waste from waste holders to transit and waste facilities.

During the year more than 115,000 controlled waste tracking forms were used to track more than 1.3 million tonnes of controlled waste.
A total of 828 new controlled waste licence applications were also assessed. All new licence





828 new controlled waste licence applications assessed

applications were assessed within the 30-day statutory timeframe.

Amendments to the Environmental Protection (Controlled Waste) Regulations 2004 are being progressed. Broadly, the amendments will implement the National Environment Protection (Movement of Controlled Waste between States and Territories) Measure, and require tracking of mixed waste to prevent liquid waste being inappropriately disposed of in landfills. They will also make amendments to licence requirements for controlled waste drivers, vehicles and tanks.

To support the proposed amendments, the department has undertaken a review of controlled waste to streamline its processes, reduce the administrative burden for stakeholders and

prepare enhancements to the Controlled Waste Tracking System.

A focus during the reporting period has also been on initiating the development of software to track controlled waste, and phasing out the use of paper tracking forms.

Environmental Noise

The department provides specialist environmental noise advice to key stakeholders including the EPA, local and State Government agencies, and the community. Environmental noise expertise also supports our policy, regulatory, and compliance and enforcement functions.

The department responded to 117 requests for noise advice or support this year. Of these, in its role of supporting LGAs to administer the Environmental Protection (Noise) Regulations 1997, we responded to 86 requests for environmental noise advice, technical support or laboratory analysis.

Specialist environment noise advice was provided 19 times relating to matters under EPA consideration, and in response to 12 requests from other Australian and State Government agencies. Further support was provided to LGAs in the form of two noise regulation training courses.

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Reform Roadmap projects

Our Compliance and Enforcement directorate progressed an internal review of its service delivery, aligning with the department's Reform Roadmap initiatives and to address the recommendations of the Auditor General's Report 11, Compliance with Mining Environmental Conditions.

It committed to reform initiatives including to:

- · review, integrate and improve compliance and enforcement functions
- increase place-based delivery of compliance and enforcement activities across the state
- build our compliance and enforcement capability to ensure we have the right skills in place.

During the reporting period, two reviews of compliance and enforcement service delivery started: an internal compliance framework audit



and a review of the Pollution Watch service delivery. A reform plan identifying key work streams and deliverables was prepared to detail the delivery of the reforms.

Contaminated sites

In Western Australia we regulate contaminated sites through the Contaminated Sites Act and Contaminated Sites Regulations 2006.

The continually increasing number of reported and classified sites directly reflects the role of the Contaminated Sites Act in uncovering and managing the legacies of past industrial activities.

As our scientific understanding of contaminants expands along with residential, commercial and industrial development, so too does the complexity and technical nature of the contamination issues which we as a regulator are required to consider and manage.

A significant issue we are managing in Western Australia is the regulation of waste disposal sites and the number of proposed developments in or next to former landfills. Redeveloping land which has been used previously for activities ranging from agriculture and market gardening to industrial and even former landfill sites brings the focus directly back on to the management of contaminated land.

In 2022–23 the department aimed to classify reported sites within 45 days as required by section 14 of the Contaminated Sites Act. It has generally achieved this objective.

The majority of Mandatory Auditor's Reports (MARs) processed in 2022–23 that did not require referral to other agencies were processed within the target timeframe of 21 days.

► Key performance drivers and issues

There are increased transparency expectations and obligations of government to make contaminated sites information available to all parties, including the public. Our publicly reported KPIs reflect only a small part of the contaminated sites regulation function.

Sites classified as 'contaminated - remediation required' (254 at 30 June 2023) or high-priority 'possibly contaminated - investigation required' (293 at 30 June 2023) need ongoing review to



remediation required sites



investigation required sites

establish whether the actions specified in the site classification are being implemented and the risk, or potential risk, to human health or the environment is being mitigated.

Where appropriate action has not been taken. the department may serve statutory notices on relevant parties to complete the necessary actions.

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There are also about 500 grace period sites (sites reported in the first six months following the Contaminated Sites Act commencement but not yet classified) which remain dormant on the department's records.

The present housing shortage and the resulting prioritisation of residential development has placed additional pressure on the department to provide statutory planning advice and respond to MARs submitted to fulfill planning conditions for development sites (some with complex contamination issues) in shortened timeframes.

We focused on statutory timeframes (including Form 1 reports of a known or suspected contaminated site) and MARs submitted to report on compliance with regulatory notices (served under Part 4 of the Act) or submitted to clear planning conditions. MARs for high-risk sites, or changed site conditions, were also prioritised.

Air quality

► Air quality monitoring

Western Australia is a signatory to the National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM) and is required to report annually on the results of air quality monitoring undertaken by the department. Changes to the AAQ NEPM were made in April 2021 and included the use of more stringent air quality standards.

The department is responsible for the operation and maintenance of 16 permanent air quality monitoring sites in Western Australia. Ten of these sites - Armadale, Caversham, Duncraig, Mandurah, Quinns Rocks, Rolling Green, Rockingham, South Lake, Swanbourne and Wattleup – are within the Greater Perth region. There are six regional sites in Albany, Bunbury, Busselton, Collie, Geraldton and Kalgoorlie.

Ambient air quality monitoring has shown that air quality in Western Australia is generally very good with only brief episodes of poor air quality, usually attributable to smoke from bushfires and prescribed burns.

A new campaign monitoring site was established in Como during January 2023, close to the intersection of Kwinana Freeway and Canning Highway. The objective of monitoring at this site is to understand the influence of motor vehicle emissions in areas close to major transport thoroughfares. The Como site will operate for up to 12 months.

The department's permanent and campaign air quality monitoring sites feed data into an extensive database, and a live public Air quality index is updated hourly.



Prescribed burning in West Kimberley





Remote infrared monitoring of pollutants in Kwinana

Priorities

Performance

► Particle sensors deployed to the regions

In 2022 the department continued the deployment of low-cost air quality monitoring sensors to several regional areas that do not have permanent monitoring stations.

The regional network of sensors will provide timely assessment of smoke levels to enable people in those communities to better understand their potential exposure and manage their activities to minimise the impacts of smoke.

The regional towns and cities included in the program have been selected based on population density. The sensor data from these instruments can be viewed on sensor manufacturer PurpleAir's website.

Recommendation 14.1 of the Royal Commission into National Natural Disaster Arrangements Report (2020) emphasised the need for increased air quality information and health advice to communities, including vulnerable groups such as asthmatics. The recommendation also highlighted the use of low-cost sensors to accomplish this outcome.

► High-resolution datasets to assess urban heat island effect in Perth

The urban heat island (UHI) effect occurs in Perth, as it does in many cities around the world. It is caused by increasing urbanisation and motor vehicle use and leads to increased temperatures that result in several negative impacts, including increased heatwave risk and higher air pollution levels.

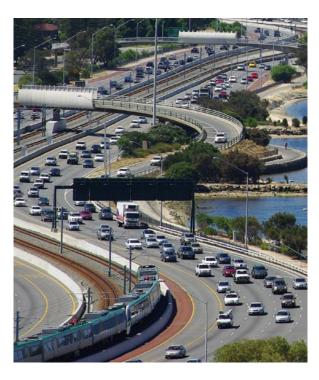
The department has received funding from the Climate Action Fund for a scientific program that will develop high-resolution datasets for Perth to enable assessment of the UHI effect. Products will include urban heat island scenarios and analysis tools to support future city planning activities, including assessment of climate change adaptation actions.

► Air quality technical advice

The department continues to provide strategic, technical and policy advice on air quality matters such as ambient air quality, industrial emissions, odour modelling, meteorology, health standards and air toxics. From July 2022 to June 2023, more than 100 technical reviews of industrial development proposals were undertaken, including for high-profile industry proposals in priority airsheds such as Port Hedland in the Pilbara and the Kwinana Industrial Area.



Real-time air quality information is displayed in our Prime House office





Service 5 Environmental and water policy

EP Act amendments

In 2020 the EP Act amendments were the most significant reforms of Western Australia's environmental legislation since the creation of the FP Act in 1986.

These amendments were part of a reform agenda to create more efficient, risk-based and flexible assessment and approval processes.

They support a focus on cumulative impacts and strategic assessment, and provide new and better tools to improve environmental management.

Over the past two years, we have started implementing the amendments through a staged approach.

To allow for the new 'prescribed activity' regime, we are making amendments to the Environmental Protection Regulations 1987 (EP Regulations).

In September 2022 the department released the discussion paper *Environmental Regulation* Reform: A strategic review of regulatory delivery and fees for industry regulation. The feedback from that consultation is informing the drafting of amendments to the EP Regulations.

We expect a consultation draft of the amendments and an accompanying discussion paper will be released in mid-late 2023 for further consultation.

Stage 1: February 2021

Stage 1 started in February 2021 and included:

- modernising and streamlining provisions
- creating various head powers
- expanding enforcement and evidence-gathering powers
- implementing flexibility in serving infringement notices.

Stage 2: October 2021

Stage 2 started in October 2021 and included:

- facilitating the implementation of bilateral agreements with the Australian Government
- enabling regulations to declare Environmentally Sensitive Areas
- modernising, streamlining and creating more flexibility for referral, amendment and implementation of significant and strategic proposals under Part IV of the EP Act
- creating a new process for referrals of native vegetation clearing.

Stage 3: December 2023

Stage 3 is anticipated to be proclaimed in December 2023. This final stage will include:

- implementing the 'prescribed activity' regime under the new Part V Division 3 of the EP Act
- creating head powers for establishing environmental monitoring programs in regulations
- · establishing provisions for the management of offset funds.

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Western Australian Climate Policy

The department is leading implementation of the <u>Western Australian Climate Policy</u>, with several key initiatives progressed in 2022–23. These included development of the <u>SERS</u>, the <u>Climate Science</u> <u>Initiative</u> and the <u>Climate Adaptation Strategy</u>.

A commitment under the policy is to develop a Climate Risk Framework to monitor, assess and report on implications of climate change on the state's finances, infrastructure, physical assets and service delivery. As a result, the department established a Climate Risk Capability Initiative to provide support and guidance to government agencies on how to make climate risk assessments, and adaptation planning.

Climate risk management training workshops were delivered in early 2023 to develop public sector capability, and to understand impacts arising from a changing climate and associated hazard events. Collaboration and engagement is underway

with agencies participating in the <u>Climate Risk</u> <u>Framework pilot program</u>, which is led by the Department of Treasury.

Climate legislation

In January 2023 the State Government announced plans to introduce climate change legislation in late 2023, to establish a framework for emissions reductions to meet Western Australia's goal of net zero by 2050.

Climate legislation will give industry, business and investors the certainty and stability needed to frame their decisions and actions. It will also create statutory requirements for the State Government to set interim emission reduction targets for government and the broader economy, and require strategies to be developed to reduce emissions and adapt to the impacts of climate change.

This is expected to encourage investment in clean energy technologies, and enhance business confidence, stimulating change to accelerate the state's clean energy transition.

Clean Energy Future Fund

The department administers the \$19 million <u>Clean Energy Future Fund</u> to support projects that demonstrate significant, cost-effective emissions reductions and could lead to broader adoption.

In March 2022 the first Clean Energy Future Fund project was completed by Nomadic Energy, with 5 megawatts of modular, redeployable solar panels being installed at Carosue Dam gold mine. The Fund contributed \$1 million to the pioneering project, with the system generating more energy than was modelled.











Redeployable solar panels at Carosue Dame gold mine

Regional Climate Alliance project funding

In December 2022 Western Australia's two Regional Climate Alliances were granted \$100,000 to deliver collaborative climate action projects.

This is the final funding round of the two-year \$500,000 pilot program aimed at increasing connectivity and capacity between regional councils to address climate change.

A commitment under the Western Australian Climate Policy, the Regional Climate Alliance projects represent 13 local governments from the Great Southern and Goldfields, working to reduce carbon emissions and climate resilience.

The two partnerships, the South Coast Alliance and the Goldfields Voluntary Regional Organisation of Councils, have taken action through various initiatives including:

- · working with local businesses to assess their greenhouse gas emissions
- developing educational resources to help other businesses take action
- undertaking a regional climate risk assessment and action plan to strategically address issues and opportunities.

In June 2023, the department started a full evaluation of the program in collaboration

with participating alliances and the Western Australian Local Government Association. Findings will inform options for an expanded program.

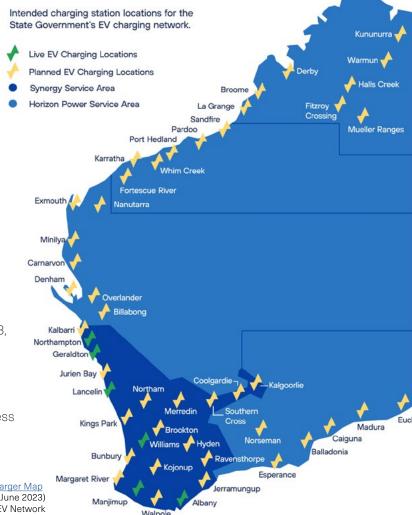
Electric Vehicle Strategy

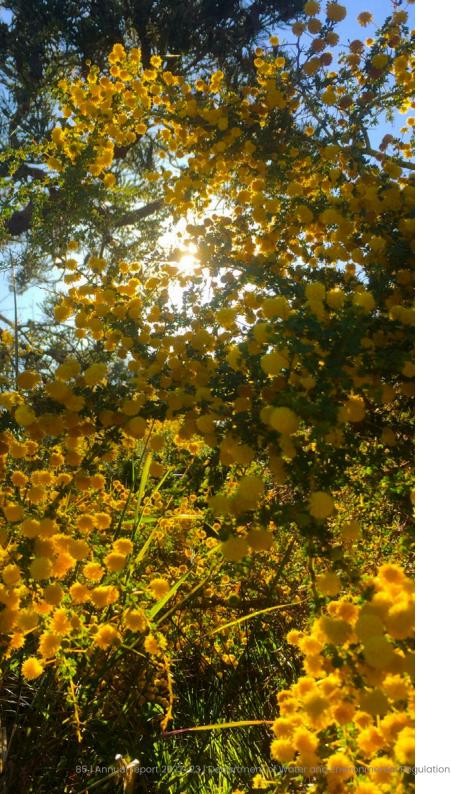
The department also leads the implementation of the State Electric Vehicle Strategy (EV Strategy) to facilitate increased adoption of electric vehicles to reduce greenhouse gas emissions and improve our urban air quality.

A key deliverable of the EV Strategy is development of the WA EV Network. Construction of the \$23 million charging network started in November 2022 and will extend more chargers than 6,600 km with planned across 49 98 chargers across locations 49 locations.

The first two charging stations opened in 2023, with the full network set for completion in the first half of 2024. The network will stretch along key travel routes from Kununurra in the north to Esperance in the south and east to Eucla. Charging stations will, on average, be less than 200 km apart.

Western Australia **Electric Vehicle Charger Map**





Native vegetation policy

The Native vegetation policy for Western Australia was released in May 2022 with a focus on business certainty and conservation outcomes. The policy is critical to build the state's capability to respond strategically to cumulative environmental impacts.

Actions in the four-year implementation roadmap are progressing, with engagement across relevant government agencies for better-coordinated policies, practices, systems and data. These support business certainty, consistency, transparency and evidence-based decision-making. Through better coordination of regulatory and voluntary actions by many stakeholders, the policy aims to deliver a net gain in Western Australia's valuable native vegetation.

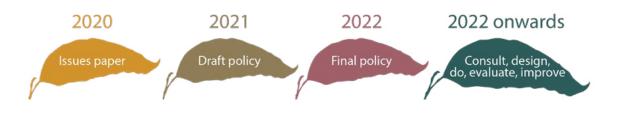
In 2022–23 the State Government allocated initial funding for the first two years of the policy's implementation. Through the 2023–24 budget process, an additional \$3.3 million over

three years was allocated to develop a pilot of a new mapping and monitoring system, which will enhance the state's capacity to track progress on net gain in native vegetation extent.

The State Government has also allocated funding of \$3.75 million over two years for an Urban Greening Grants program, recognising the multiple biodiversity, amenity, climate and water benefits of urban canopy, including the potential for cockatoo-friendly landscaping. The department will be coordinating this program.

In December 2022 the State Government announced that the Perth and Peel regions would be prioritised for regional planning under the Native vegetation policy. This will complement the Perth and Peel @ 3.5 million land use and planning frameworks, helping to provide certainty, address cumulative impacts and reverse declining environmental values, and strike a balance between conservation and development.

Appendices



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Advisory groups

► Aboriginal Water and Environmental **Advisory Group**

AWEAG was established to ensure Aboriginal knowledge, values and needs are considered and appropriately addressed across the department's strategies, policies, programs and planning for the management and regulation of the state's environment and water resources.

It comprises Aboriginal members from across the state with skills, knowledge and experience in water and environment. This year was our first under a new arrangement, with Noongar member Jason Barrow joining Director General Michelle Andrews as Co-Chair of the group.

Our commitment to increase engagement and participation of First Nations Australians into the stewardship of the state's land and water is manifest in current programs of work across the agency.

Over the next 12 months there will be a sharper focus on implementing the outcomes of our RAP and enhancing the department's capability and capacity to deliver meaningful outcomes for Aboriginal people, through genuine partnerships and engagement with Aboriginal stakeholders.

AWEAG met four times in the financial year.

► Air Quality Coordinating Committee

The Air Quality Coordinating Committee comprises representatives from the State Government, industry, business and the community.

The committee oversees implementation of the Perth Air Quality Management Plan (AQMP) which aims to ensure clean air is achieved and maintained throughout the Perth metropolitan region to 2030 and beyond. Members are finalising updates to the Perth AQMP to reflect contemporary air quality issues and management actions.

The committee met twice between July 2022 and June 2023.

► Cockburn Sound Management Council

The Cockburn Sound Management Council is an advisory council to the Minister for Environment established under section 25 of the FP Act.

One of the council's roles is to oversee and coordinate environmental monitoring of the Cockburn Sound marine area, consistent with the State Environmental (Cockburn Sound) Policy 2015 published by the EPA.

Monthly water quality sampling was undertaken in the Cockburn Sound marine area to assist with the detection of environmental changes. The water quality sampling complements the department's continuous real-time water monitoring in the Cockburn Sound marine area. Seagrass surveys were also conducted in March 2023 to improve our understanding of seagrass health.



Aboriginal Water and Environmental Advisory Group



Cockburn Sound Management Council

The Cockburn Sound Management Council met three times during the financial year.

▶ Exmouth Gulf Taskforce

In August 2021 the EPA published its strategic advice to the Minister for Environment on the potential cumulative impacts of proposed activities and developments on the environmental, social and cultural values of Exmouth Gulf. The EPA report identified that the Exmouth Gulf was fragile and faces increasing pressures on its unique and globally significant environmental, social and cultural values.

One of the State Government's responses to the EPA report was for the Minister for Environment to establish the Exmouth Gulf Taskforce in September 2022, as an advisory body under section 25 of the EP Act. The department provides secretariat, policy and cross-government coordination support to the Taskforce.

The Taskforce, independently chaired by Laine Ashforth-McDonald, will be providing advice to the Minister for Environment on improving protection for Exmouth Gulf and its surrounds. Traditional Owners, various agencies, industry, community members and conservation groups are working together, with the common goal of protecting Exmouth Gulf. The involvement and membership of Nganhurra Thanardi Garrbu Aboriginal Corporation is central to the Taskforce.

Over the next 12 months Nganhurra Thanardi Garrbu Aboriginal Corporation and DBCA will progress marine and terrestrial reserves in the Exmouth Gulf area. The Taskforce will be investigating knowledge gaps, processes to protect subterranean waterways, options for ongoing integrated management of the Gulf, and consideration of the impacts of climate change.



Exmouth Gulf

▶ Waste Reform Advisory Group

The Waste Reform Advisory Group was established in 2019, following the release of the waste strategy. The group informs the development of waste and recycling policy and legislation in Western Australia as part of the waste strategy and state waste targets.

The group is chaired by the department's Director General and includes representatives from the Waste Authority, local government, peak industry and resource bodies, community groups, non-government organisations and material recovery operators.

The group met three times in 2022-23.





Service 6 Waste strategies

Waste Avoidance and Resource **Recovery Strategy 2030**

The WARR Act sets out requirements for the Waste Authority to develop a waste strategy for Western Australia.

The waste strategy, and its annual action plan, provide the State Government, local government, industry and the community with a clear picture of current waste issues and a roadmap for the future. The aim of the strategy is for Western Australia to become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.

The department works closely with the Waste Authority and the Minister for Environment to implement the waste strategy.

In 2022–23 the department and the Waste Authority continued to work collaboratively through these projects:



Recycling modernisation



E-waste ban to landfill P90



Review of the waste levy P91



Waste infrastructure planning P91

P90





Waste plans



Roads to Reuse



Better Bins Plus: Go FOGO

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Waste data collecting

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WasteSorted toolkit and GREAT Sorts



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Plan for Plastics, Stage 2



Container deposit scheme P97

The waste strategy was released in February 2019 and will be reviewed in 2023-24. The first stage of consultation on the review began on 30 May 2023 with the release of a <u>directions paper</u> for public comment. Submissions will be considered in the development of a draft updated waste strategy. and this draft will then be released for public consultation with a view to releasing an updated waste strategy in 2024.

Australian Government waste export ban and recycling modernisation

The Australian Government's Recycling and Waste Reduction Act 2020 banned the export of waste plastic, tyres, glass, paper and cardboard from 1 January 2021. This presented a range of opportunities and challenges for Western Australia. To become more resilient to fluctuating international markets and trends, the State Government has started working with the Australian Government and industry to create



appropriate local infrastructure and markets for recycled resources.

The State Government and the Australian Government are jointly funding recycling projects in Western Australia through the Australian Government's Recycling Modernisation Fund. The funding helps Western Australian industry build infrastructure to reprocess waste materials onshore and meet the waste export bans.

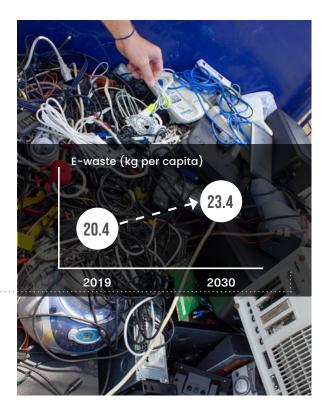
Eight projects were awarded funding for plastics and tyre recycling infrastructure. Six have started installing infrastructure, ordered machinery and applied for licences, and two of these have started processing (one tyres and one plastics). \$18.5 million in joint funding was awarded across these six projects.

Two projects initially offered funds have been withdrawn, and a paper and cardboard project also selected for funding has been withdrawn. A new paper and cardboard project is under consideration to replace it.



E-waste ban to landfill

Electrical waste or electronic equipment (e-waste) is one of the fastest-growing waste streams. According to the Australian Government's E-Product Stewardship in Australia Evidence Report, every Australian generated on average : → about 20.4 kg of e-waste in 2019 and it is predicted this will rise to 23.4 kg per capita by 2030. E-waste contains valuable materials including gold and silver, and may contain substances that are hazardous to the environment.



Following a 2021 election commitment, the State Government is delivering a ban on e-waste disposal to landfill by 1 July 2024. Funding of \$14 million has been committed to implementation of the ban, stakeholder consultation, a grant program and a community education



campaign. The department will administer \$10.1 million in grant funding over the next two years, through a series of competitive grant rounds, to boost the state's e-waste collection and storage, processing and recycling network capacity.

From January to March 2023, the department released the *E-waste to landfill ban in Western Australia: Consultation Paper* for public comment.

A regulatory impact statement and announcement of the first round of grant funding is expected in



the second half of 2023. The Waste Avoidance and Resource Recovery (E-waste) Regulations 2023 are being drafted and are anticipated to be published in late 2023, with implementation to start on 1 July 2024.

The ban will initially include televisions, mobile phones, computers, screens, data storage, white goods, batteries, medical devices, lighting and lamps. Photovoltaics, small household items, and monitoring and control equipment are being considered for future phases of the ban.

Review of the waste levy

The waste levy aims to influence waste management practices, including reducing waste to landfill, by increasing the price of landfill disposal. It also raises funds to support waste-related programs that reduce waste to landfill.

In 2022–23 the waste levy was set at \$70 per tonne for putrescible landfills and \$105 per cubic metre at inert landfills.

In May 2023 the Minister for Environment released the findings from the 2020 review of the waste levy in a <u>Consultation summary report</u>. The announcement included the first increase to the levy since 2018. The levy will increase by \$15 per tonne from 1 July 2024, in line with inflation. Future increases will be published in a rolling five-year schedule of levy rates.

In the second half of 2023, the department will develop a consultation regulatory impact statement (RIS) to explore a proposal to expand the levy boundary. The Waste Authority will further consider the role of the levy in the review of the waste strategy which started this year.

Waste infrastructure planning

In April 2023 the department released the draft *State waste infrastructure plan* for public consultation. The plan seeks to provide a long-term information framework to guide decision-making for the planning and development of waste infrastructure in Western Australia. It models the built waste infrastructure needed in each region, to meet the 2030 targets of the waste strategy.

The public consultation period for the draft plan ended on 23 June 2023. The plan is now being finalised based on stakeholder feedback.

Waste data collection and reporting

Progress towards the avoidance, recovery and disposal targets in the waste strategy is assessed using data collected under regulation 18C of the Waste Avoidance and Resource Recovery Regulations 2008. In 2020, Waste Data Online was launched to enable lodgment of annual returns online. This year, 254 clients lodged annual returns with the department using Waste Data Online.

Local government waste plans

Waste plans provide local governments with a mechanism to align their waste services with the waste strategy and identify actions that contribute towards achieving its targets and objectives.

Local governments in Perth, Peel and major regional centres (the cities of Albany, Bunbury, Busselton, Kalgoorlie-Boulder and Greater Geraldton) are required to prepare waste plans under section 40(2) of the WARR Act.

Local governments submitted their first waste plan annual reports to the department in late 2022.

The reports set out the progress that each local government has made with the implementation of waste plan actions during the 2021-22 financial year. The most implemented actions reported related to education and communications. infrastructure, the delivery of waste services, data, and litter and illegal dumping.

The reports also revealed that most of the 33 local governments across Perth and Peel are making progress towards delivering FOGO (food organics and garden organics) services. Nine local governments currently deliver FOGO services and a further 11 have committed to do so by 2025, consistent with the waste strategy. Thirteen are assessing the feasibility of delivering FOGO by 2025.

Roads to Reuse

The Roads to Reuse (RtR) program continues to encourage State Government agencies, local governments, regional councils and the private sector to use recycled construction and demolition (C&D) products in civil applications such as road construction. It does this by supporting the supply to market of recycled C&D products that meet a product specification, to protect human health and the environment.

Three accredited RtR recyclers were operating at four sites in the Perth and Peel regions in 2022-23.

The department and the Waste Authority have worked closely with Main Roads WA. the Department of Health and the Waste



and Recycling Industry Association of Western Australia to deliver the project. Main Roads WA has now used about 165,000 tonnes of RtR products since 2019 and has committed to use more in future projects.

RtR also delivers an independent audit of C&D recyclers' processes and products to ensure recycled products meet the RtR product specification. Five independent audits were conducted throughout the year.



An audit of Roads to Reuse material



Priorities

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Food and garden organics

The department is supporting the waste strategy target to roll out better practice three-bin FOGO services across Perth and Peel local governments by 2025.

The Waste Authority's annual FOGO rollout plans, informed by a FOGO Reference Group, identify actions across the themes of markets, local government services, education and engagement, and organics processing.

Key highlights to support the FOGO rollout include the \$20 million Better Bins Plus: Go FOGO program, the ongoing development of FOGO communication materials delivered through WasteSorted, and four new case studies to promote the use of FOGO-derived products. The case studies feature FOGO used in agricultural settings, landscaping, land rehabilitation of transport infrastructure projects, and in the community (through local government sales of compost).

> In three years, the Better Bins Plus: Go FOGO program has committed \$5.186 million towards the delivery of better practice three-bin FOGO services.

The department is also planning to publish guidance on better practice contracting, to support local governments and service providers to deliver high-quality and efficient FOGO services.

▶ Better Bins Plus: Go FOGO

The Better Bins Plus: Go FOGO program continues to support local governments to introduce FOGO services consisting of a:

- red-lid bin for general waste
- yellow-lid bin for recycling
- · lime green-lid bin for FOGO.

In three years, the program has committed \$5.186 million towards the delivery of better practice three-bin FOGO services.

In 2023, two local governments applied for grants totalling \$1.58 million to introduce FOGO services to more than 100,000 households. At 30 June

2023, FOGO systems have been rolled out to close to 200.000 households throughout the Perth, South West and South Coast regions.



Red-lid hin for general waste Yellow-lid bin for recycling Lime green-lid bin for FOGO



Overview

► Education and engagement

Many local governments have adopted the <u>WasteSorted toolkit</u> materials to educate and engage the community in FOGO services.

► Improved capacity for organics processing

On 4 May 2023, the Australian Government and State Government announced co-investment totalling \$11.25 million for three new organics recycling infrastructure projects that will divert up to 275,000 tonnes of Western Australia's FOGO waste from landfill each year and convert it into compost.

The three projects are collectively valued at \$54 million and are distributed to the north, east and south of Perth. They are expected to be completed by June 2025. Not only will they assist Western Australian farmers with a reliable source of high-quality compost, they will also support 146 construction jobs and 98 ongoing positions.

Three new organics recycling infrastructure projects will divert up to 275,000 tonnes of Western Australia's FOGO waste from landfill each year and convert it into compost.



A Waste Authority Program

WasteSorted behaviour change

The WasteSorted behaviour change campaign, Be a GREAT Sort, launched in August 2020. The campaign targets five high-priority waste behaviours to encourage the community to take simple actions to 'make landfill the last resort'.

In 2022–23 the campaign was promoted statewide on television, cinema, radio, billboards, YouTube and social media channels, and in printed materials. The social media campaign reached just under 1.3 million users, and more than 800,000 people through television and cinema advertising, with more than a million views of online videos.



Home

New campaign materials were developed to support the National Food Waste Strategy to halve food waste by 2030. The campaign encourages households to use up the ingredients they already have. The WasteSorted toolkit was also updated to align with changes to soft plastics collections, implementation of single-use plastic bans, the agreed list of materials accepted in FOGO bins and better alignment with Containers for Change.

The department has also expanded its organic social media presence with regular content and more than 5,000 followers. This <u>WasteSorted Facebook page</u> brings the five GREAT Sort behaviours to life by showing a variety of people sorting their waste. The repetition helps to establish the actions as socially normalised and inclusive.

The GREAT Sort messages and WasteSorted toolkit have been adopted by many local governments and regional councils, amplifying key messages and contributing to consistent waste messaging across the state.



Find out about WasteSorted on YouTube





WasteSorted Schools

The WasteSorted Schools program is a key component of the WasteSorted behaviour change program. It is a free program that supports schools to make landfill the last resort through provision of curriculum resources and education strategies, along with hands-on learning experiences. The program helps schools to protect the environment, reduce their waste costs, and promote positive waste behaviours among students, teachers and the community.

Activities include:

- · avoiding waste
- recycling
- · composting and worm farming
- promoting waste-free lunches
- green canteens
- productive school gardens.

WasteSorted Schools highlights

from July 2022 to June 2023

23 schools

recognised for 10 consecutive vears of accreditation from a total of 141 accredited schools.

\$149,755 awarded

to 48 schools for projects that avoid and recover school waste, such as paper and cardboard. food waste. Containers for Change and general recycling.

New curriculum materials

developed and a green canteen case study video published.

professional

learning workshops. webinars, networking and sharing sessions delivered to metropolitan and regional teachers, students and local governments.

80 educational

waste audits and incursions run with students











Household Hazardous Waste program

The Household Hazardous Waste (HHW) program helps with the storage, transport, treatment and recovery of HHW collected by local governments and regional councils.

HHW refers to products used in and around the home that are flammable, toxic, explosive or corrosive. If not disposed of correctly, HHW can pose a threat to human health and the environment.

The HHW program has nine metropolitan and six regional permanent local government facilities where householders can drop off unwanted household chemicals at no charge. Temporary collection events are also hosted throughout the vear.

In 2022–23 a total of 485 tonnes of materials were collected for safe recovery or disposal, including gas bottles, batteries, flammable liquids and cleaning products.



WasteSorted grants

The WasteSorted Grants – Organics Infrastructure Program helped fast-track existing organics operators to align with the department's Guideline: Better practice organics recycling which was published in December 2022. The program supported projects from organisations that provide FOGO handling and processing sites. The emphasis was on projects that addressed odour, emissions to land and water, and other environmental aspects.

Five organics infrastructure projects were funded, totaling \$850,000.

The program funds organisations to develop and implement projects that support the waste strategy's objectives, address focus materials and align with the WasteSorted messaging and/or GREAT Sort behaviour change campaign.

Eleven community education projects were funded, totaling \$150,380. Since 2017, the department has administered waste grant funding programs which have provided \$8.4 million to Western Australian projects to improve the recovery and reuse of focus materials, including plastics, C&D waste, textiles and FOGO.



Plan for Plastics

Western Australia's Plan for Plastics continues its successful implementation by providing a pathway to address emerging environmental, waste and human health issues arising from disposable and single-use plastic items.

The plan includes bans on the sale and supply of a range of plastic items across two stages. Stage 1 bans, enforced from 1 July 2022, included plastic plates, cups, unlidded bowls and containers.

> The Plan for Plastics Stage 2 regulations will save an additional 700 million plastic items from landfill annually.

Priorities Performance cutlery, straws, stirrers, shopping bags, expanded polystyrene food containers and helium balloon releases.

Preliminary usage data indicates that the consumption of plastic items was decreasing in advance of the Stage 1 enforcement deadlines. as businesses and people moved towards more environmentally friendly options and reusable products.

Stage 2 regulations came into effect on 27 February 2023 following extensive stakeholder consultation. Stage 2 addressed a further 12 highly problematic items: coffee cups and lids, produce bags, moulded and loose expanded plastic packaging, degradable plastics, expanded polystyrene cups and meat trays, unlidded plastic trays, cotton buds with plastic stems, microbeads and lids for trays, plates, bowls, containers and cups.

Enforcement dates will be staggered from 1 September 2023 to 1 July 2025, allowing businesses time to use up supplies and transition to compliant alternatives. Stage 2 regulations will save an additional 700 million plastic items from landfill annually.

Community engagement campaigns to raise awareness of the bans used the catchphrase 'good, better, best' to emphasise the importance of our choices relating to single-use plastics.

The Minister for Environment launched the Plastic Free Places program on 14 April 2022. The program is being implemented by the Boomerana Alliance, in partnership with the department, and is a key strategy to support hospitality businesses and the events sector reduce their use of plastics. Businesses and organisations can continue to transition away from plastic and become champions of change by adopting reusable alternatives

Container deposit scheme

Containers for Change started on 1 October 2020, providing incentives for communities to reduce litter and increase recycling as well as creating new business and employment opportunities across the state.

Containers for Change is run by WA Return Recycle Renew Ltd, a not-for-profit company responsible for developing and maintaining the collection network, recycling containers, community education and financial management. The department administers the legislative framework to support the scheme, including assessing container approval applications, monitoring scheme performance and providing regulatory oversight.

Before the implementation of Containers for Change the pre-scheme recycling rate for eligible beverage containers was 34 per cent. By the end of the 2022-23 financial year this had increased

to 62.7 per cent. A total of 918,728,036 containers were returned in 2022-23 - an increase of 19,136,341 from the previous financial year.

In December 2022 the Minister for Environment announced the start of a public consultation period to consider expanding the scheme to include wine and spirit bottles as well as all flavoured milk, juice and cordial containers up to 3 litres.

The department released the discussion paper Container deposit scheme – Expanding the scope of eligible beverage containers and undertook regional consultation in Bunbury, Margaret River and the Swan Valley.

At the close of consultation the department's online survey received 2,700 responses, with more than 98 per cent supporting expansion of the scheme.



Litter strategy

The department provides services to the Keep Australia Beautiful Council (KABC) to support the state's litter strategy.

The Litter Prevention Strategy for Western Australia 2020–2025 is in its third year of implementation and sets a target of reducing litter by 30 per cent over the lifetime of the strategy.

KABC will implement the Litter Prevention Strategy 2020-25 through four strategic objectives:

Objective 1

Increase community understanding of the impacts of litter on

Objective 2

long-term prevention of litter and marine

Objective 3

enforcement of the Litter Act 1979

Objective 4

Monitor the level of litter in Western Australia and its marine environment and evaluate the effectiveness of programs

KABC highlights

from July 2022 to June 2023

Litter surveys

Two litter surveys were conducted using the Australian Litter Measure (November 2022 and May 2023). Surveys included 265 transects at 57 sites in 10 local government areas across the Perth metropolitan area. An average of 17,196 items of litter were counted, with cigarette butts being the most common item, and plastic the most commonly found



Tidy Towns

KABC's longstanding Tidy Towns Sustainable Communities awards continued to draw strong applications, with 38 received in 2022. Gascoyne Junction was named the 2022 state winner and went on to win the overall 2023 Tidy Towns title at the National Tidy Towns Awards. Submitted projects recorded more than 93,000 hours of volunteer participation.



Adopt-a-Spot

The Adopt-a-Spot program was expanded to more than 2,000 registered groups, bringing the total number of program volunteers to more than 57,000 since 2009.



Litter Grants

Community Litter Grants to a total of \$43,363 were awarded to 10 recipients for projects to combat littering.



Clean Schools

Five Clean Schools program workshops were held, including three in partnership with WasteSorted Schools. Eighteen new schools registered for the Clean Schools program, bringing participating schools to 743.



New campaigns

Three new awareness and behaviour change campaigns were launched to increase community understanding of the impacts of litter on the environment. Material was developed to update KABC's 'Bin it you know it's the right thing to do' campaign, target roadside litter and increase program involvement.



Total solar eclipse

KABC worked on litter strategies with JTSI for the total solar eclipse in the state's North West in April 2023. More than 2,000 Outback Packs and additional car litter bags were handed out in the shires of Exmouth, Carnarvon and Onslow. These packs encouraged travellers to keep the scene clean and help protect land and marine biodiversity.



WA Beach Clean-ups

KABC partnered with Tangaroa Blue for WA Beach Clean-up activities, and visited Cervantes, Dongara, Geraldton and Kalbarri supporting local schools and community groups with beach clean-ups and audits. All data gathered was added to the Australia Marine Debris Initiative Database. Over four days, 3,716 items were removed from the environment, with a total weight of 113 kg.





Service 7 Environmental impact assessment services to the EPA

The EPA is an independent authority that provides advice on environmental matters to the Minister for Environment. The department has continued to provide services to the EPA to conduct environmental impact assessments of significant development proposals and planning schemes.

Development proposals

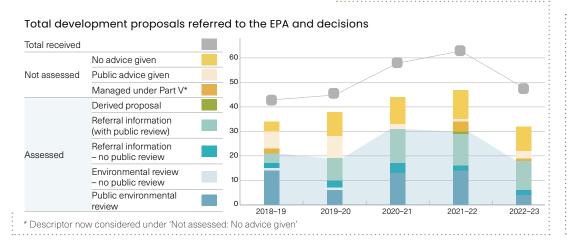
In 2022–23 there were 48 development proposals referred to the EPA. This is a reduced number of proposals from the previous two years. The EPA may not necessarily make a determination on whether to assess a referred proposal in the same year the proposal is referred. Only when the FPA has sufficient information about the referred

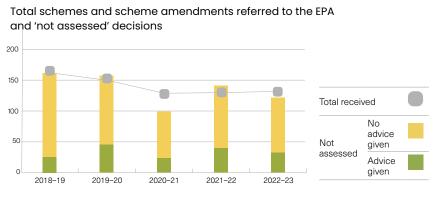
proposal can it make a determination on whether formal assessment is required.

:.. The EPA determined that 14 referred proposals did not require further assessment, and 18 referred proposals required formal assessment. Of the 14 that did not require further assessment, the EPA provided specific advice on environmental matters to the proponent on three of those proposals.

Planning schemes and scheme amendments

∴ In 2022–23 the EPA received 132 referred. schemes. It determined that none required formal assessment and 121 did not require further assessments. The EPA provided advice and recommendations on environmental factors to the responsible authority on the environmental issues raised by 32 of the referred schemes that did not require further assessment.





Completed assessments

In 2022-23 the department supported the EPA to complete 17 assessment reports to the • · · · · · Minister for Environment, of which 10 report on the assessment of significant proposals (see table). These included the Alkimos Seawater Desalination Plant accredited assessment. which considered eight key environmental factors impacted by the proposal and a complex environmental offsets strategy to counterbalance

Assessment reports completed

Type of assessment	2019-20	2020-21	2021-22	2022-23
Formal assessments				
Public environmental review	7	5	5	4
Environmental review (no public review)	1	1	0	0
Assessment on referral information (no public review)	3	5	2	1
Assessment on referral information (with public review)	5	2	7	5
Strategic proposal	-	-	-	0
Subtotal	16	13	14	10
Changes to conditions				
s. 46 inquiry	24	8	9	7
Total	40	21	23	17

significant residual impacts. A further seven inquiries into changes to conditions of existing projects were also completed in 2022-23. These inquiries included the three investigations into the adequacy of greenhouse gas conditions relating to the Pluto LNG Gas Development, the Janz Feed Gas Pipeline and Gorgon Gas Development Revised Proposal, and the Wheatstone Development

The map shows the location and type of all the proposals for which assessment reports were completed in 2022–23. **◆**······

Assessments this year included the Ningaloo Lighthouse Resort Project in Exmouth Gulf. This proposal was the first assessment completed since the release of the EPA's strategic advice to the Minister for Environment on the potential cumulative impacts of proposed activities and developments on the environmental, social and cultural values of Exmouth Gulf. The proponent was required to consider compatibility with the protection of the key values of this globally significant area, including turtle nesting in Lighthouse Bay, subterranean fauna, dark and clear skies, and Aboriginal heritage and culture. The EPA recommended strict conditions to protect these values.

The EPA also completed its assessment of the Earl Grey Lithium Project (Revised Proposal), which overlaps the south-west corner of the Great

Location and type of all proposals for which assessment reports were completed in 2022–23 Road Landuse Change to conditions Mining and renewable

Western Woodlands These woodlands have faced historical pressures from mining and mineral exploration, and that pressure is increasing with the accelerating demand for critical minerals.

Other assessment work

Any amendments to a proposal or implementation conditions once a statement has been issued must be approved under section 45C of the EP Act. The EPA Chair is delegated to make decisions under section 45C on behalf of the Minister for Environment. In 2022–23 the department provided support to the EPA Chair to complete 12 amendments to existing proposals under section 45C of the EP Act, with 33 proposed amendments still under assessment.

Consultation

Providing opportunities for genuine public consultation is an important stage in the EPA's environmental impact assessments. Members of the public are invited to offer advice, identify omitted relevant information, provide local knowledge and propose alternatives during a number of stages. The first opportunity for the community to engage with the process is when the EPA initially publishes the details of a proposal at the referral stage, which allows a seven-day public comment period. After this, the EPA considers submissions and advice obtained and makes a determination on whether or not to assess the proposal, and if so, the level of assessment. Relevant proponent information (such as environmental review documents) may then be published during the assessment on the EPA website for public review.

During the 2022–23 financial year, there were more than 7,000 submissions relating to 51 proposals via the EPA Consultation Hub.



Overview

Service 8 Environmental management services to the EPA

The department provided services to the independent EPA to develop guidelines and strategic advice to manage environmental impacts and protect the environment.

Greenhouse gas guidance

Climate legislation and policy is rapidly evolving and climate science now demands the need for deep and substantial reductions in greenhouse gas emissions this decade.

We supported the EPA's review of its Environmental Factor Guideline – Greenhouse Gas Emissions in 2022. The guideline outlines how greenhouse gas emissions are considered by the EPA in the environmental impact assessment process. Over a period of eight weeks, more than 1,000 submissions were received. This comprehensive engagement and feedback helped ensure the guideline is practical and consistent with the innovative approach needed to address climate change.

The <u>revised guideline</u> was published in April 2023, outlining EPA expectations for proponents to take all practicable measures to avoid and reduce their greenhouse gas emissions. It also reflects the EPA's ability to consider practicable measures to

reduce overlap and avoid duplication with existing frameworks, including reforms of Australian Government emissions-reduction legislation and policy.

Aboriginal cultural heritage

Over the past year, the EPA contributed to DPLH's consultation on the proposed *Aboriginal Cultural Heritage Act 2021*. The EPA made multiple submissions to this reform process, stating the desire for an integrated and comprehensive single cultural heritage assessment process.

In June 2023, the EPA reviewed and updated its *Environmental Factor Guideline – Social Surroundings* to reflect the new legislation that became operational on 1 July 2023. This update was designed to ensure proponents, Traditional Owners and stakeholders had clarity on the EPA's continuing statutory obligation to consider Aboriginal cultural heritage (ACH) in assessments under the EP Act

Following the State Government's decision to repeal Aboriginal cultural heritage laws and restore the original *Aboriginal Heritage Act 1972*, the EPA is now reassessing the extent to which it must consider how direct impacts to physical or biological surroundings affect ACH values. Changes to the ACH legislation framework will be carefully considered by the EPA before guidance and policy is adopted

Greater Brixton Street Wetlands

In October 2022 officers from the department responded to a request from the EPA to develop advice, under section 16(j) of the EP Act, on the environmental values and pressures on one of the Swan Coastal Plain's last remaining and most important wetlands – the Greater Brixton Street Wetlands.

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The wetlands cover about 215 hectares at the base of the Darling Scarp, about 20 km south of the Perth CBD within the cities of Gosnells and Kalamunda, between Roe and Albany highways and Kenwick Road.

Home to more than 650 plant species, the wetlands include a number of rare and restricted species that no longer exist anywhere else, and

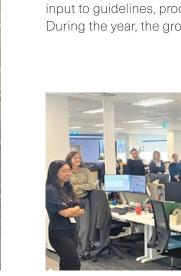
more carnivorous plants than in all of Europe. They also provide habitat for conservation-significant fauna, including the Carnaby's and forest red-tailed black cockatoos, and the quenda.

The EPA report found there were multiple threats to the significant environmental values of the wetlands and that continued piecemeal development may result in further degradation of the area's unique and significant environmental values.

This advice will ensure future activities and development are carried out in a way that minimises the impact on this valuable environmental asset and gives a clear expectation that proposals and planning schemes must be compatible with protecting the environmental values of the wetlands.

Stakeholder Reference Group

The department supported the EPA's Stakeholder Reference Group, which invites representation from key external stakeholders and peak industry bodies. Members have the opportunity to provide input to guidelines, processes and performance. During the year, the group met quarterly.



EPA Services staff at an information session



The Greater Brixton Street Wetlands provide habitat for conservation-significant fauna.



Service 9 Compliance monitoring services to the Minister for Environment

In accordance with section 48(1) of the EP Act, the department may monitor proposals approved by the Minister for Environment, for the purpose of determining whether the implementation conditions set out in the Ministerial Statement are being complied with.

If a proponent does not ensure implementation of the proposal is in accordance with the implementation conditions, the proponent commits an offence.

When non-compliance with an implementation condition or proponent commitment in a Ministerial Statement is identified, the proponent is issued with a 'notice of non-compliance', detailing actions required to rectify the issue and regain compliance. The Minister for Environment is informed of each non-compliance.

The department undertakes its environmental compliance activities through a structured annual program. The program incorporates a variety of proactive and reactive methods to monitor compliance including audits of proposals, reviews of compliance assessment reports, on-site inspections and stakeholder engagement.

The annual program enables resources to be effectively managed and achieve better environmental outcomes. The results from the compliance audits identify areas for improving

proponents' compliance and inform future annual programs and the environmental impact assessment process.

Compliance and audit activity

Under our 2022-23 Compliance program, we continued to monitor significant proposals

authorised under Ministerial Statements. completing 17 audits including iron ore mining activities, oil and gas facilities and large infrastructure projects.

A total of 140 compliance assessment reports were reviewed and seven notices of non-compliance were reported.





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