Government of **Western Australia**
Department of **Water and Environmental Regulation**

We're working for Western Australia.

Annual report

2019 – 20

02 Our performance

Statement of compliance

For the year ended 30 June 2020

Hon. Dave Kelly, MLA
Minister for Water

Hon. Stephen Dawson, MLC
Minister for Environment

In accordance with section 63 of the *Financial Management Act 2006*, I hereby submit for your information and presentation to Parliament the annual report for the Department of Water and Environmental Regulation for the financial year ended 30 June 2020.

The annual report has been prepared in accordance with the provisions of the *Financial Management Act 2006*.

Mike Rowe
Director General
24 September 2020

Feature stories

What's inside

Our staff are central to our success and
we will continue to create a culture of
excellence and leadership,
built on strong internal and external relationships.

02 Our performance

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Outcome one

Western Australia's growth and development is supported by the sustainable management of water resources for the long-term benefit of the state.

We work to achieve this through the following three key service areas.

Service one:
Water information and advice

The department enables investment decisions of regional and state significance by providing data and information on the quantity, quality, location of and demand for water across WA. The information also underpins policy advice for consideration by State Government and supports other government agencies and stakeholders to plan for future economic growth and urban and rural development.

Peel Integrated Water Initiative

Managed by the department, the Peel Integrated Water Initiative (PIWI) is supporting the region's growth and economic development by delivering technical information that supports both conventional and climate-independent, sustainable and secure water use options for the Transform Peel Program – while ensuring environmental benefits for future generations.

During the year, the PIWI project team worked with researchers, scientists and industry leaders to investigate how Transform Peel development opportunities could be achieved based on the region's current and future water resources.

The team focused on two main objectives:

Water quantity

Identify a range of technically viable water source and storage options to support the expected growth in demand from Peel Food Zone and Peel Business Park, and maintain the region's water balance.

Water quality

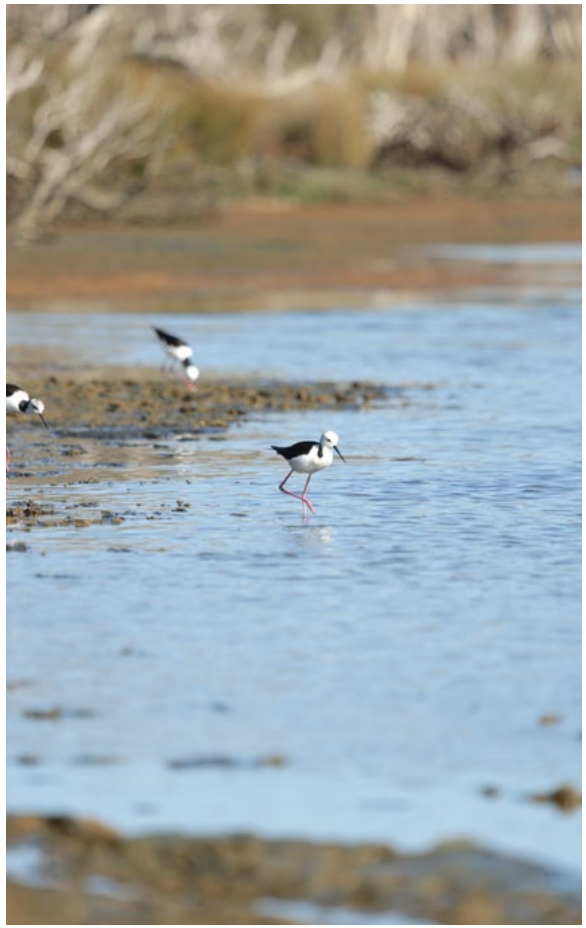
Develop strategies to protect the region's fragile ecosystem by minimising land use impacts on the environment and reducing agricultural nutrient runoff into the Peel-Harvey Estuary by 50 per cent.

The PIWI project team undertook extensive technical analysis to model and better understand the water systems in the study area and inform decisions to support water security for the longer term. Studies included:

Managed aquifer recharge feasibility study	Investigated the possibility of storing water collected during winter by pumping it into the deep natural aquifer system for future demand.
Engineering concept design and commercial and economic feasibility study of managed aquifer recharge – Nambeelup	Assessed engineering options and commercial feasibility of the capture, treatment and storage of excess water as a water supply option from the Peel Business Park area.
Airborne electromagnetic and seismic surveys	Measured changes in below-ground conductivity (an indicator of groundwater salinity) to provide a better understanding of the regional groundwater system before validating findings through drilling and pump testing.
Ecological water requirements assessment	Defined the quantity of water needed to preserve groundwater-dependent ecosystems. This process will inform the allocation of groundwater resources in the PIWI investigation area and support the water licensing policy.
Groundwater allocation planning	Used detailed studies into ecological water requirements and the impacts of climate change to review existing groundwater allocation limits. Groundwater availability in the study area was reduced to provide water security for existing users, support more sustainable long-term decision-making, and protect water-dependent ecosystems.

Historical climate and climate change analysis	Identified the potential impact of recent and future climate change on water resources in the PIWI investigation area, including declining rainfall and fluctuating weather patterns.
Water supply-demand analysis	Provided an understanding of how more intensive land uses would increase future demand for water. This study found that, while water demand may be met through conventional sources in the short-to-medium term, innovative supply options will be needed to provide water security to meet the objectives of the Transform Peel Program. They will also be needed to enable food production for domestic and high-value international markets for the next 50 years and beyond.
Hydrological and nutrient modelling	Evaluated proposed land uses under current and future climate scenarios to identify potential surface water abstraction volumes from agricultural drains, and the associated nutrient loads within the PIWI project area.
Soil amendment and testing	Investigated how current interventions and new strategies could improve water quality in the proposed agricultural areas to reduce nutrient loads into the Peel-Harvey estuarine system.

In 2019–20, the department produced the PIWI technical report in collaboration with industry partners the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Department of Primary Industries and Regional Development, Peel Development Commission, Wallbridge Gilbert Aztec and the Shire of Murray. Finalised in June 2020, the report's findings and recommendations will enable government, industry and the community to make more informed decisions.



Waterwise Golf Course Program

Together with the Golf Course Superintendents Association of Western Australia (GCSAWA), we established the Waterwise Golf Course Program in 2013 to ensure water-efficient operation and a resilient golf course industry.

With reduced rainfall and constrained groundwater availability, the industry is facing significant challenges. The program guides planning for efficient and sustainable irrigation, ensuring golf courses are better positioned for future challenges.

In 2019–20, the program developed industry-specific training manuals, a web-based portal and electronic workflows to help participants achieve accreditation for irrigation efficiency.

Participation in the program (which is open to all WA golf courses) doubled during 2019–20, with more than 20 golf courses now participating or registered. It continues to enable operators to maintain active sports grounds through best practice irrigation – benefiting the health of the community and providing important green spaces.

Water supply options for green space irrigation in the South West 2015–60

The department, in collaboration with stakeholders, has investigated water supply options to meet green space irrigation needs in the state's South West to 2060.

The region is one of the areas most impacted by the drying effects of climate change globally. This strategic work identifies that nearly 3.5 gigalitres of additional water may be needed by 2060, and offers solutions to meet increasing demand.

Seven areas comprising Australind, Wanju, Central Bunbury, Boyanup, Busselton East, Busselton Vasse and Dunsborough were found to need solutions to meet future water demand by 2060.

Planning and implementation of solutions is progressing, with local government authorities (LGAs) already investigating preferred options and working towards long-term solutions.

Our work with stakeholders included LGAs, water utilities and the urban development industry.

Land use planning advice

The department's Land Use Planning Program supports sustainable growth and economic development by providing specialised water and environmental expertise and technical information, to inform the state's statutory and strategic land planning system.

The consultation and formal advice we provide enables the Western Australian Planning Commission, LGAs and other decision-making agencies to progress development while managing the impacts to water resources and the environment.

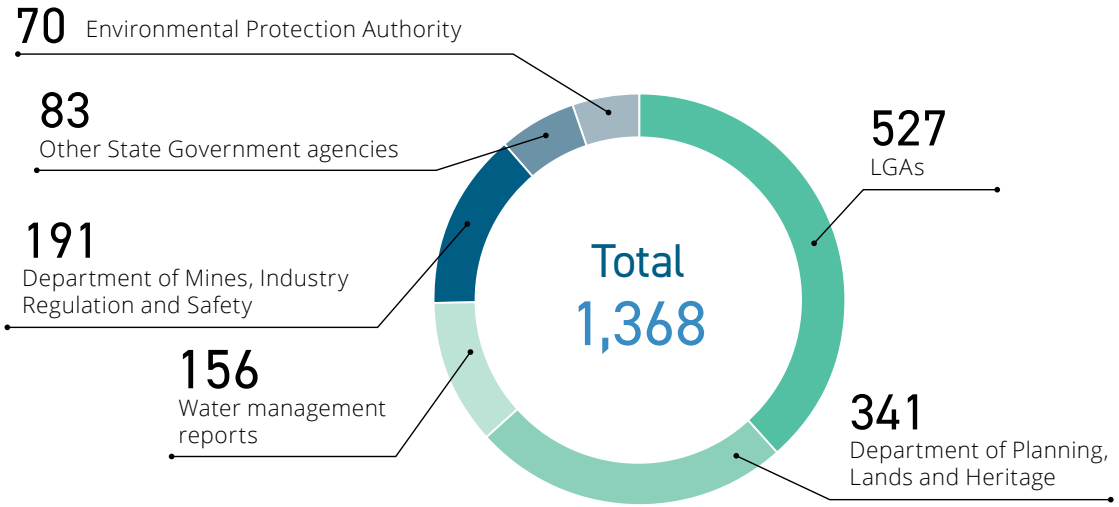
We provide specialist advice on both strategic and statutory land planning, ensuring that water challenges and cumulative impacts on the environment can be adequately planned for. Our advice supports the land planning sector to deliver quality waterwise developments.

This year, we assessed and responded to:

- 341 requests for water advice from the Department of Planning, Lands and Heritage
- 527 requests from LGAs
- 191 requests from the Department of Mines, Industry Regulation and Safety (DMIRS)
- 70 requests from the Environmental Protection Authority (EPA).

We also responded to 83 requests from other State Government agencies and advised on 156 water management reports associated with land planning and mining activities.

➤ **Land use advice provided by segment 2019–20**



Water information

Our water information reporting (WIR) and geographic information system (GIS) services provide water data and information that is used to inform investment decisions of local, regional and state significance, and supports other government agencies and stakeholders in planning for future economic growth, and urban and rural development.

The free, online WIR portal provides reliable, customised water information quickly and easily, enabling instant access to more than 133,000 water monitoring sites.

During 2019–20, the WIR portal received 5,925 requests for water information and 153 requests for spatial information, and provided 4,066 spatial datasets.

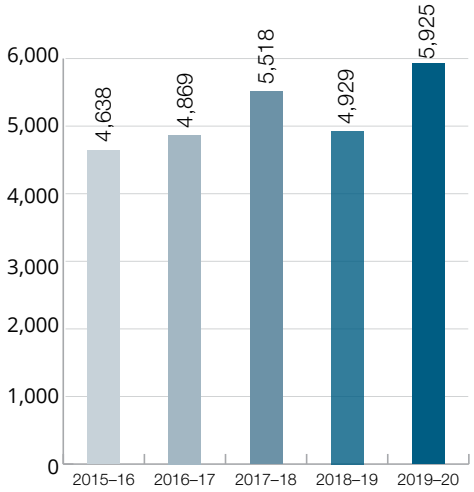
Together, the WIR portal and GIS services provided data and information on the quantity, quality, location of and demand for water across the state. Information from the portal is delivered instantaneously and puts vital information at the fingertips of consultants, miners, land and property developers, farmers, infrastructure providers, government agencies, researchers and students.

In August 2019, the department released a floodplain mapping tool. This makes it easier for the community to learn about flood risk in their area. Users can view floodplain maps and flood levels, where available, as well as floodplain development strategies. The tool is also useful for industry, especially those in the property sector.

Requests for data during the financial year came mainly from the private sector, government, and the education and research sectors.

Water data and information supports a viable, sustainable resource for public benefit while enabling individual economic benefits. Scientists and planners across the public sector use the data for modelling and assessments to help determine flood risk, drainage management, sustainable water allocations and, importantly, water resource planning for the benefit of the wider community.

➤ Data requests per financial year



Service two: Water planning, allocation and optimisation

The department's water planning, allocation and optimisation ensures the sustainable management of water resources for the state's long-term benefit and relies on good science. This includes planning and allocating water for sustainable productive use, protecting public drinking water source areas and ensuring the sustainability of water resources and their dependent ecosystems.

Water Online

The Water Online system has been available to water users to lodge their water licence applications since 2015, and to departmental officers to complete online assessment of applications since June 2017.

In 2019–20, we continued to promote the uptake of the Water Online customer portal by licensees, with the number of registered customer portal users totalling 5,679 at 30 June 2020. The proportion of water licence applications submitted electronically was 53 per cent during the financial year.

We are continuing to invest in system enhancements to expand the functionality of the customer portal and improve overall user experience.

Water deficiency declarations

This financial year, a further nine water deficiency declarations were announced across the state – bringing the total number to 12 since May 2019.

In 2019–20, the following areas were declared:

Fourth declaration	Ardler Road area in the Shire of Lake Grace	4 December 2019	The second for the shire since May 2019. An estimated 920,000 litres of water was carted each week to a new tank at the Ardler Road dam site, with volumes adjusted to meet farmer needs.
Fifth and sixth declarations	The Grass Patch area in the Shire of Esperance and northern part of the Shire of Jerramungup (respectively)	19 December 2019	Water was delivered to temporary tanks at the corner of Monash Avenue and Gnowangerup-Jerramungup Road in Jerramungup, and to the corner of Grass Patch Road and Coolgardie-Esperance Highway in Grass Patch. Because of the vast distances required to cart water under this declaration, farmers benefiting from the declaration worked together to ensure the volume of emergency water taken was shared equitably, and enough was available for everyone to maintain stock welfare.
Seventh declaration	The adjoining Jerramungup (east) and Ravensthorpe (west) areas within the shires of Jerramungup and Ravensthorpe	13 February 2020	An estimated 1,800 kilolitres of water was carted each week from Mount Barker, Katanning and Tambellup. Water was delivered to a new 250-kilolitre capacity tank at Fitzgerald in Ravensthorpe.
Eighth and ninth declarations	Kukerin in the Shire of Dumbleyung and the Hamilton's dam area in the Shire of Kent (respectively)	21 February 2020	With the volume of water carted to meet farmer needs, these declarations saw an estimated 2,400 kilolitres of water carted each week for the Kukerin area and 1,600 kilolitres per week for the Hamilton's area from the shires of Dumbleyung, Katanning, Broomehill-Tambellup and Kulin. Water was delivered to a series of 75,000-litre capacity portable tanks in Kukerin and a new 250,000-litre capacity tank at Hamilton's dam.
10th declaration	Salmon Gums in the Shire of Esperance	7 March 2020	An estimated 850 kilolitres of water was carted each week from Norseman to existing tanks at the Salmon Gums Quarry dam, with weekly volumes based on farmer needs.
11th declaration	Gairdner in the Shire of Jerramungup	12 June 2020	The Jerramungup declaration initially saw up to 660 kilolitres of water carted each week to two 75,000-litre mobile water tanks at the Cooperative Bulk Handling Group's (CBH) site on South Coast Highway, Gairdner, while a longer-term site was prepared.
12th declaration	Cascade area in the Shire of Esperance	17 June 2020	The Esperance declaration allowed for an estimated 640 kilolitres of water to be carted weekly from the Water Corporation's scheme at Norseman in the Goldfields region.

Managing groundwater

These nine sites are in addition to three sites declared since May 2019 (in the previous financial year, 2018–19) comprising:

- Mount Short in the Shire of Ravensthorpe, the first site announced on 7 May 2019.
- Mallee Hill area in the Shire of Lake Grace, the second site announced on 15 May 2019.
- Hollands Rock area in the Shire of Kent, the third site announced on 4 June 2019.

In light of continuing water shortages and the need to conserve this precious resource, farmers carting livestock water have been encouraged to cart to closed storages or tanks rather than into dams where water losses are high because of evaporation.

The impacts of climate change and its effects on groundwater resources is a serious issue for the department – particularly in the context of the south-west of WA experiencing a 15 per cent decline in average annual rainfall since 1975. This has reduced recharge to groundwater aquifers from Geraldton to Esperance.

Across much of the south-west corner of the state, groundwater is an important part of the water supply mix and is used for town drinking water supplies, to irrigate public open space, and for irrigated horticulture. Perth's groundwater resources provide more than 40 per cent of scheme supplies to households and businesses; almost all the water supply used for parks, sports grounds and agriculture; and one in four domestic gardens. Groundwater also plays an important role in our natural environment by supporting wetlands, lakes and deep-rooted vegetation (such as urban trees).

Managing groundwater sustainably ensures we can provide for our current needs and future generations.

Managing groundwater sustainably ensures we can provide for our current needs and future generations. It is part of our aim to ensure the amount pumped from aquifers stays in balance with the amount of recharge to groundwater aquifers from rainfall. The amount of groundwater available for use in each location is identified through the department's water allocation plans. To get this right, water allocation planning involves considerable science, including future climate projections.

Water allocation planning responds to climate change by using projected climate trends to identify water availability over the 10-year life of our plans. As rainfall in the south-west is decreasing, in many cases this means that no more groundwater can be made available for use.

Water users are responding to climate change by using the water that is available more efficiently, including through improving

irrigation technology, better design of green space, reducing leaks and wastage, and through water trading. In some locations groundwater use will need to begin to reduce as rainfall further decreases. By planning now for future water availability, we will be able to provide certainty about any changes needed, allow plenty of time to adjust, and keep the changes small.

Looking ahead to 2020–21, we are aiming to complete the Cockburn groundwater allocation plan and progress groundwater allocation planning products for Gnangara, Myalup, Perth South and Jandakot, Serpentine, Derby, Esperance and Albany.

▶ Fitzroy water allocation plan

The department is in the process of developing a Fitzroy River water allocation plan to support the State Government's Fitzroy election commitment for no dams, a National Park, and a management plan to protect the river and support sustainable economic development.

The water allocation plan will be built on scientific evidence and be guided by community values and government policy to provide a strong and transparent foundation for the catchment's water resource management.

No decisions have been made on the amount of water that can be sustainably taken from the river.

Following significant stakeholder consultation, draft policy positions are now being developed as a discussion paper. Stakeholder meetings to share and discuss these policy positions were originally scheduled for the first half of 2020; however, because of the COVID-19 pandemic and the associated Remote Aboriginal Communities Directions, departmental staff were unable to travel to the catchment to undertake meetings with stakeholders and Traditional Owners.

Stakeholder meetings will be rescheduled so that feedback can be sought to inform the draft water allocation plan.

Both our department and the Department of Primary Industries and Regional Development are available to talk to stakeholders and we will continue to work on other elements of the Fitzroy commitments, with the possibility that consultation may recommence later in 2020.

Groundwater and surface water investigations

We undertake groundwater and surface water investigations and water modelling throughout the state to ensure government and industry have timely knowledge of resources allocated for drinking water supply, agriculture, horticulture, mining and industry in areas where it is most needed.

The combined investment of $4.1 million in 2019–20 included $2.5 million of investment in the State Groundwater Investigation Program, plus $1.6 million in the Water Modelling Program. These programs completed 1,200 m of local drilling and installed 19 new monitoring bores, collected 348 samples of water for chemical analyses, built seven water models and began 20 new models.

Completed models included:

- two for understanding flood behaviour and flood risk
- models at three surface water monitoring sites to better understand the relationship between water levels and discharge
- two catchment-scale surface water models to understand the flow and water quality inputs to the Hardy and Wilson inlets.

Bores installed in the Cockburn and Peel coastal areas allow us to monitor the movement of the seawater interface and sustainably manage coastal aquifers that support the Western Trade Coast and green space in Mandurah.

Despite complexities caused by the COVID-19 pandemic, an entire drilling program was carried out in Esperance between April 2020 and June 2020 in close collaboration with Traditional Owners. This project will provide new information to ensure the limited fresh groundwater resource can continue to support public and private water supply, without impacts from the ocean and saline lakes.

Through the East Midlands investigation, we installed a new groundwater monitoring network between Moora and Gingin, carried out all required surface water and groundwater sampling, and started building our 3D geological model. This project will improve our understanding of groundwater availability and help address water needs for horticulture and the environment, in particular for Gingin Brook. The investigation has progressed significantly, with on-ground works completed and data collected and analysed to inform planning for the use of this important resource.

Two major projects reached completion this financial year: the Western Suburbs Regional Organisation of Councils (WESROC)/Kings Park Formation and Fitzroy Valley groundwater investigations.

The WESROC/Kings Park Formation project focused on securing water for Perth's green spaces, while protecting groundwater quality, wetlands and existing groundwater users. This project updated the hydrogeological understanding of the area with a focus on aquifer connectivity, recharge and groundwater interaction with surface water. The new conceptualisation will be used in future water allocation planning and water supply planning for the area, under climate change and population growth.

The Fitzroy Valley project investigated groundwater availability in the Fitzroy River Catchment. This project updated the understanding of the geometry of the major aquifer units. As part of the project, the Poole Sandstone and Grant Group provided a regional-scale understanding of rainfall-derived recharge, and defined hydraulic connectivity between the various aquifer units and the Fitzroy River, Margaret River and significant off-stream pools and tributaries.

Two further investigations began this financial year: La Grange groundwater-dependent ecosystems in the Kimberley and the Swan Valley North East Corridor.

The purpose of the La Grange project is to determine the relationship between groundwater in the Broome and Wallal aquifers and the ecosystems in the La Grange groundwater subareas and Walyarta, including the Ramsar-listed[3] Mandora Marsh, 80-Mile Beach and Roebuck Bay. Highlights for 2019–20 include:

- detailed planning including stakeholder mapping
- a project initiation document receiving endorsement from the board.

Two further investigations began this financial year: La Grange groundwater-dependent ecosystems in the Kimberley and the Swan Valley North East Corridor.

The Swan Valley North East Corridor investigation progressed detailed scoping and the development of a project initiation document, as well as readvertising a request for tender for an airborne electromagnetics survey. Outputs from the Swan Valley North East Corridor investigation will provide a robust understanding of groundwater availability and salinity in the area and will be used to inform allocation reviews for a feasibility assessment of alternative water supplies, such as managed aquifer recharge. The project is being completed collaboratively with our Waterwise Perth Action Plan team.

This year, we progressed a trial of groundwater telemetry equipment which will revolutionise how we collect groundwater-level data across the state. This trial will inform wider implementation of this technology, making our data more readily available to inform our science and decision-making.

[3] A Ramsar site is a wetland site designated to be of international importance under the Ramsar Convention. The Convention on Wetlands, known as the Ramsar Convention, is an intergovernmental environmental treaty established in 1971 by UNESCO, which came into force in 1975.

We also assessed the age and condition of our existing monitoring bore network, which provides vital information about groundwater resources and helps determine maintenance and replacement priorities.

In 2019–20, we replaced 17 deep bores – some in the Perth area up to 600 m deep – with drilling totalling more than 5,000 m. Maintenance works were undertaken across the state at a further 850 groundwater monitoring sites. This work remains essential to protecting WA's groundwater monitoring network, which comprises about 2,500 bores.

In addition, we monitored 243 surface water sites across WA using telemetry to capture real-time information on stream flow. We also captured telemetered water quality data at 75 key locations, mainly in rivers and estuaries in the south-west.

We have instrumentation and assets at 270 operational river gauging stations and 174 operational meteorological sites.

Our monitoring program improved significantly in the past 12 months, with changes aimed at ensuring quality data is captured, analysed and delivered to client expectations and our own standards.

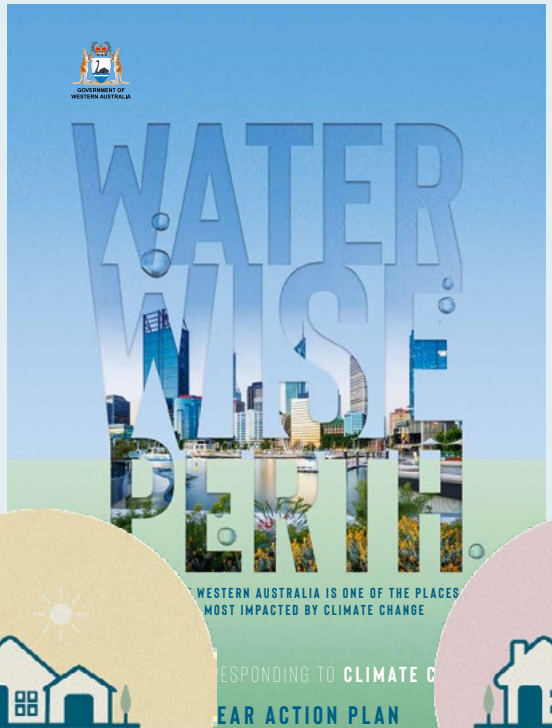
Key operational achievements during the financial year included:

- Completion of hydraulic models for four monitoring stations to improve accuracy of flow data, with a further 10 models being progressed.
- Auto-archiving of rainfall and low-risk surface water sites to improve the availability of our data, enabling stakeholders to view and download information ranging from commencement of monitoring at a site through to present-day activity. Groundwater auto-archiving is expected to be rolled out in the near future.

Waterwise Perth Action Plan

Feature Story

The State Government's Waterwise Perth Action Plan was launched in October 2019 and sets the direction for Perth to become a leading waterwise city by 2030.



The action plan sets targets to respond to the major impacts of climate change on water resources and liveability to support the 3.5 million population forecast to reside in the Perth-Peel region by 2050. It focuses on ensuring healthy waterways and wetlands, sustainable and attractive urban spaces, water use efficiency and water security now and into the future.

Developed following engagement and collaboration with more than 50 organisations and 200 individuals, the action plan calls on everyone in the community to work together to help secure our water future – including government, businesses, industry, councils and households.

It sets a work program for the next two years and establishes a solid foundation for successive plans to achieve the 2030 targets.

The actions in the plan include:

- assistance for households to be more waterwise and reduce annual per person use to 110 kilolitres
- enhanced water management of sporting ovals and green spaces
- all government-led urban development projects in the Perth-Peel region to be 100 per cent waterwise
- METRONET precincts designed to consider all elements of the water cycle
- greater use of recycled water
- increased urban tree canopy to reduce the urban heat island effect.

Rural water planning

Our department is responsible for implementing the State Rural Water Plan and administering the State and Australian Government grants that support it – providing a foundation for an organised and structured approach to the ongoing improvement and maintenance of sustainable farmland water supplies. This plan covers all dryland of the agricultural region of south-west WA which receives less than 600 mm average rainfall annually.

Developing alternative water sources is increasingly important as the population of our state grows.

The primary goal of the plan is to promote strategic development of reliable and sustainable water supplies that will provide long-term solutions to overcome water deficiencies. In particular, we give priority to areas without access to reticulated (piped) water services, as these areas are the most vulnerable to serious water deficiencies.

Developing alternative water sources is increasingly important as the population of our state grows and the rural sector battles to sustain itself in the face of a drying climate. This includes fully utilising existing water resources, such as groundwater reserves, agricultural area dams and desalination options.

▶ Management and maintenance of strategic community water supplies

A network of strategic community water supplies has been developed across WA's dryland agricultural areas to provide an important source of emergency water for stock, firefighting and public amenity during dry seasons.

These water supplies are for emergency use at times when low rainfall causes on-farm supplies to fail and forces farmers to travel outside their farm gate to collect water for livestock and other essential farming purposes.

We stay in regular contact with rural communities to monitor the condition of strategic community water supplies and identify and maintain department-managed water assets.

Through our dry season works program, we completed over $1.5 million worth of works on upgrades and improvements to the department's strategic community water supplies in 2019–20.

▶ The Community Water Supply Program

Our Community Water Supply Program provides grants of up to $100,000 for community water supply improvements in partnership with LGAs in eligible dryland areas.

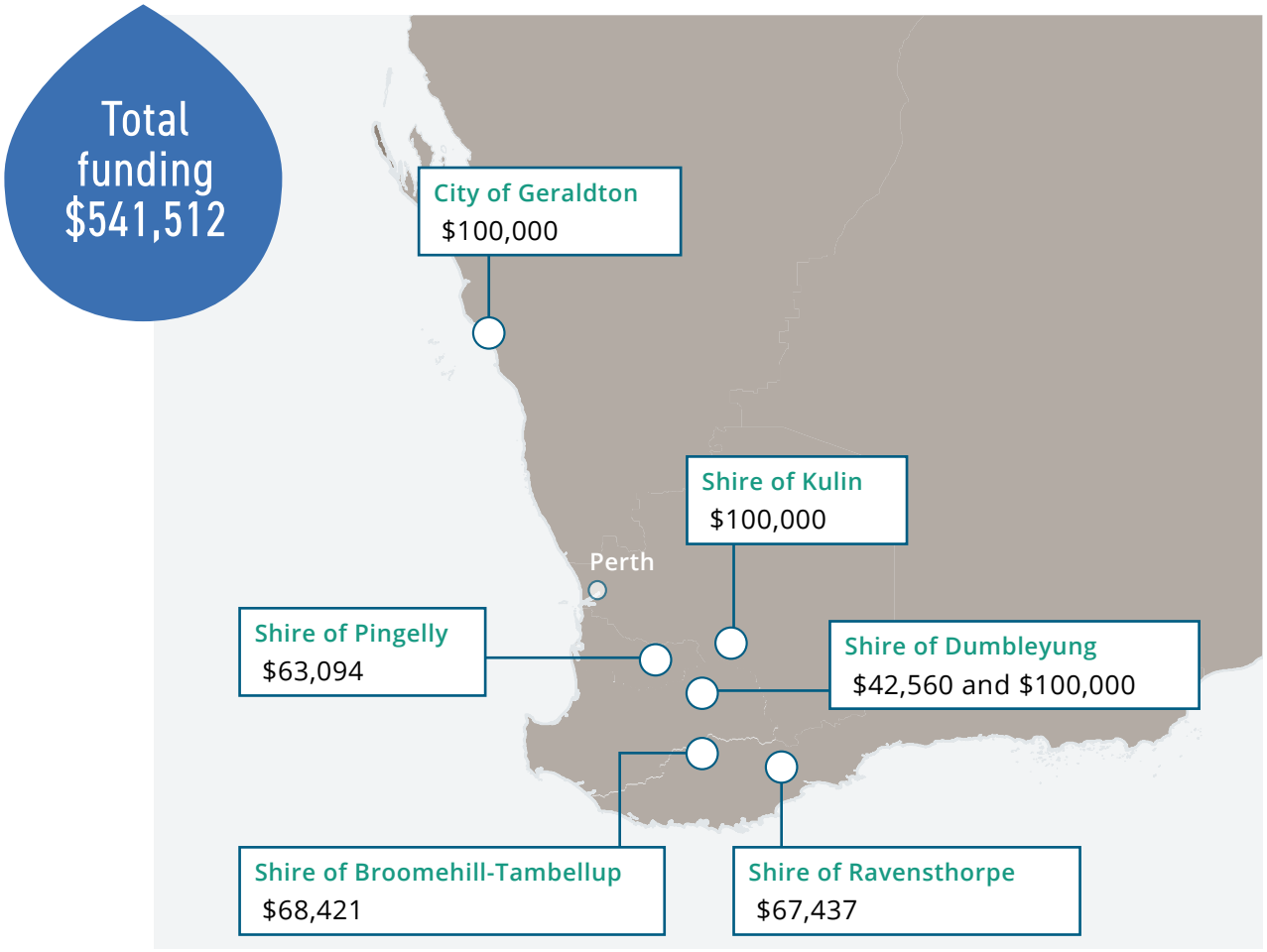
The department administers this program to encourage the planning and establishment of reliable non-potable water supplies to meet emergency farmland water needs and to reduce scheme water use.

We work with LGAs and rural communities to construct or enhance water supplies to meet emergency farmland water needs, improve townsite amenities and reduce scheme water use.

During the year, the following initiatives were funded to a total of $541,512:

- $68,421 to the Shire of Broomehill-Tambellup to upgrade and install additional pipelines between dams to maximise the efficient transfer and use of harvested water within the townsite and drought-proof the town.
- $100,000 to the City of Geraldton to improve infrastructure at three strategic non-potable bores in the Mullewa region and provide fit-for-purpose water for firefighting and rural unsealed roadworks maintenance.
- $63,094 to the Shire of Pingelly to channel crucial stormwater to the Realm Street dam and assist in watering the grounds and town oval for longer periods over summer, and increase supply for treatment and use in town resources.
- $42,560 to the Shire of Dumbleyung to upgrade the Tarin Rock Siding dam and enhance emergency non-potable livestock water supplies in the Kukerin area.

➤ **Community Water Supply Program funded projects 2019–20**



- $100,000 to the Shire of Kulin to construct a new 25,000 cubic metre capacity dam off the Pingaring-Varley Road, which will be equipped with a solar pump and 275 kilolitre capacity tank.
- $67,437 to the Shire of Ravensthorpe to upgrade the Fitzgerald dam and enhance emergency non-potable livestock water supplies in the area.
- $100,000 to the Shire of Dumbleyung to desilt the Kukerin stock dam and upgrade the catchment, optimising rainfall runoff and storage capacity.

▶ Emergency farmland water response planning

Emergency planning and response is a key part of the state Rural Water Plan, with emergency farmland water response plans outlining the process for farmers to follow in the event that emergency water is needed from off-farm sources. This includes water deficiency declarations – a State Government response to safeguard the commercial interests of farmers during exceedingly dry periods.

A declaration requires the State Government to provide water for livestock needs at a central storage point, within a 40 km radius of the farm concerned.

With areas in south and south-eastern WA experiencing extended dry conditions, the department has managed the response to an unprecedented 12 water deficiency declarations, with emergency water carted to central locations, at a cost to the state of more than $3 million.

▶ National On-Farm Emergency Water Infrastructure Rebate Scheme

The Federal and State Governments have worked in partnership to deliver national rebates to livestock and horticulture (permanent plantings) farmers and pastoralists in rural WA for on-farm water infrastructure.

The National On-Farm Emergency Water Infrastructure Rebate Scheme is administered through the Rural Water Planning Program and subject to scheme funding allocated to WA by the Australian Government. Grants are made available to eligible commercial livestock and horticulture farmers and pastoralists in WA.

The rebate is for 25 per cent up to a maximum of $25,000 for the purchase, delivery and installation of new water infrastructure to address animal welfare and permanent planting water needs and improve resilience to drought.

Because of the high volume of applications, the funding of $3.77 million for 2019–20 was fully allocated.

▶ Farm Water Supply Planning Scheme

The Farm Water Supply Planning Scheme (FWSPS) encourages commercial farmers in dryland agricultural areas to participate in a comprehensive farm water audit process. This audit process provides farmers with recognised water conservation and management principles and a robust framework on which to base water resource management decisions.

The FWSPS provides a rebate of up to $1,000 towards the cost of a farm water auditor visiting the applicant's farm to complete a farm water supply audit.

In 2019–20, a total of $138,426 was allocated to 206 farmers under FWSPS.

Protecting drinking water sources

The department remains focused on its priority of protecting water quality in 140 proclaimed public drinking water source areas – providing safe, reliable and good-quality drinking water.

In 2019–20, we arranged the constitution of three sources – Busselton, Bunbury East and Leonora – enabling them to be recognised in land use planning decisions and to allow by-laws to be applied to protect water quality. We also abolished the Leeuwin Springs, Perenjori and Greenbushes sources because they were no longer needed to supply drinking water.

As part of our drinking water source protection program, we prepare and regularly review drinking water source protection reports for sources around the state. These reports identify water quality contamination risks and how to address them.

This financial year, we continued our work on reports for the Woodridge, Nilgen, Quinninup, South Coast and Laverton drinking water sources – all five of which are on track for completion by the end of 2020.

▶ Increased protection for Mundaring Weir's drinking water

In 2019–20, we initiated works to improve water quality on department-owned land in the upper Mundaring Weir Catchment Area.

The Forest Products Commission was engaged to harvest 70 hectares of pine trees, with replanting to follow. Fallow land was prepared for establishing a pine plantation, and 10 hectares of native revegetation began alongside degraded waterways. This helps to maintain water quality in the catchment.

During the COVID-19 pandemic unauthorised camping and vehicle access spiked in the area, posing an increased risk to drinking water quality and public health.

To address this, we installed more signs and undertook patrols – supplementing the Water Corporation's efforts around the Mundaring Reservoir.

▶ Mineral exploration in drinking water sources

We are working with the DMIRS to improve environmental practices for mineral exploration in drinking water catchments.

▶ Improved process for recreation applications

In June 2020, we updated our application process for recreation events and facilities in drinking water source areas. This expedites assessment timeframes by making it easier for applicants to let us know what their plans are, as well as identify how they will protect drinking water quality.

Drainage for Liveability

The Drainage for Liveability Program, a joint initiative with the Water Corporation, supports a waterwise Perth by making our communities more sustainable, productive, resilient and liveable.

Working with interested community groups, LGAs and the development industry, we are improving stormwater drains and basins to increase the social and environmental value of these spaces in our urban environment.

In 2019–20, we developed guidance notes to aid in the design and implementation of stormwater infrastructure, including stormwater integration into public open spaces and managing small rainfall events.

In October 2019 the program was recognised at the state Australian Water Association Awards, winning the Program Innovation Award 2019. The program went on to be a finalist at the national awards.

Landmark native title settlement recognises Yamatji Nation

In 2019–20, we worked with the Department of the Premier and Cabinet to negotiate a comprehensive water package that was included in the Yamatji Nation Indigenous Land Use Agreement – reaching a native title settlement in February 2020.

Worth $442 million, the settlement was based on a land use agreement including land, housing, tourism opportunities, revenue streams and access to water.

Unique to the agreement is the recognition of the importance of water to Aboriginal people, not only in practising culture but also as an economic opportunity.

The negotiated water package included:

- the reservation of up to 25 gigalitres per year of groundwater for use by the Yamatji Nation
- $20 million for groundwater investigations to support future licence applications
- funding to train Yamatji people in groundwater monitoring and contracts for delivery of departmental groundwater monitoring programs
- funding for a program to document, protect and restore cultural water sites on traditional lands
- funds for the department to employ a Claimant Liaison Officer and additional staff to implement the project.

Moving forward, the project will be carried out by our Mid West Gascoyne team, who will work with the Yamatji Nation to develop and implement the agreement.

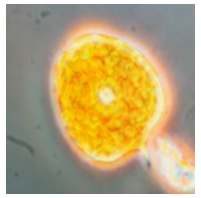
Western Australian rivers and estuaries

As the lead agency for water quality management across the state's rivers and estuaries, we lead and coordinate management actions to improve water quality based on good science in rivers and regional estuaries.

More than 80 per cent of Western Australians live around estuaries – they are central to the WA way of life, supporting businesses, recreation and tourism. Because of population pressures and intensive agriculture in the catchments, water quality in many estuaries has deteriorated.

Estuaries are where rivers meet the ocean, and their health is linked to conditions of the catchment land surrounding them, as well as conditions in the water itself. We combine the scientific understanding of how nutrient losses from catchments lead to poor water quality and the practical actions needed, such as water quality improvement plans.




For effective regional delivery, these plans rely on shared responsibility involving government agencies, LGAs, community, natural resource management groups and industry.

▶ Aquatic science

The department provides a centre of expertise in aquatic science to support management decisions relating to water quality in rivers, streams and other water bodies. This expertise in catchment and estuary numerical modelling, river and estuary science, remediation science and phytoplankton (microscopic algae) ecology supports all initiatives across our river and estuary programs.

In 2019–20, our Phytoplankton Ecology Unit operated out of upgraded laboratory facilities in Joondalup which greatly extended the capacity of this service.

The unit provides a statewide service to government for the identification and enumeration of phytoplankton, as well as coordinating algal bloom responses and advice.

▶ Peel-Harvey Estuary Protection Plan

The department's Peel-Harvey Estuary Protection Plan is designed to provide guidance and direction for water quality improvement actions in the catchments and estuaries of the Peel-Harvey estuarine system.

Despite major engineering interventions in the form of the Dawesville Cut, and concerted but inconsistent catchment management since that intervention, water quality has not improved in all areas of these estuaries. Contributing factors include increased urban and commercial development, combined with intensification of agriculture.

The estuary protection plan is a commitment of the State Government which provides the opportunity to review the current condition of the catchment and estuaries and improve scientific understanding and experience gained from various nutrient reduction actions – most notably through the Regional Estuaries Initiative.

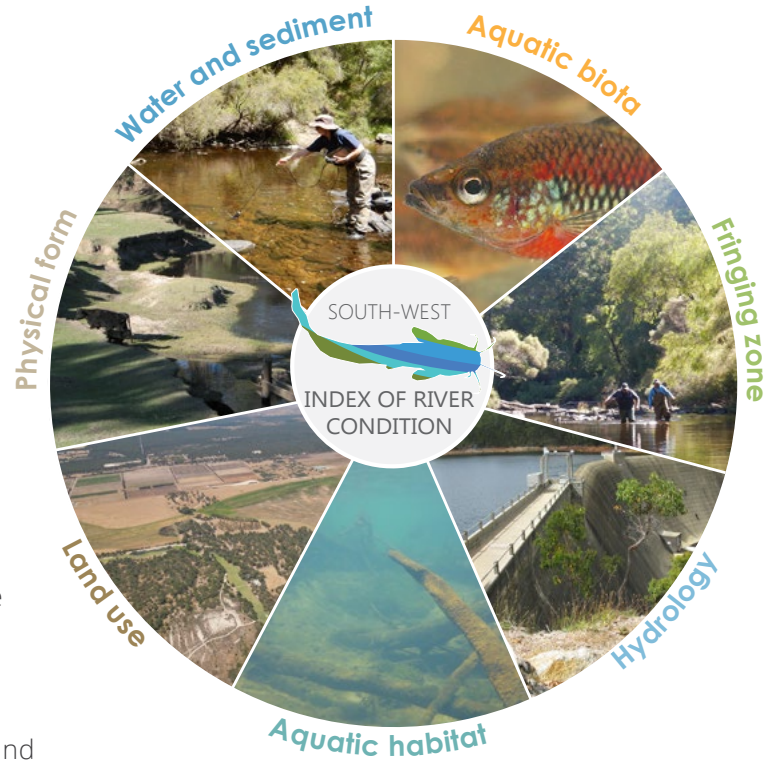
The plan will be informed by numerical modelling of catchment hydrology and nutrient sources undertaken in partnership with university researchers through an Australian research grants linkage, from which an estuary response model has been developed.

A water quality improvement plan for Peel-Harvey is also being developed and will be released in late 2020.

▶ Healthy Rivers Program

The Healthy Rivers Program collects and interprets data about rivers and their catchments, and uses the knowledge gained to provide advice to underpin river management. Central to the program is long-term, standardised assessments of river health sites, as well as assessment of emerging issues as required. In addition to use by the department, all river health information – as well as assessment methods and guidance – is made available to support others in assessing and managing rivers.

A summary of data from river health assessments (dating back to 2007) will be published later in 2020.



▶ Fish kill response

In partnership with the Department of Health and Department of Primary Industries and Regional Development, we are responsible for coordinating the response to fish kills in the state's inland waters (including estuaries) outside of the Swan-Canning System.

In 2019–20, the department responded to 29 reported fish kill events – investigating causes, communicating the status and risks to the community, and supporting management.

Feature Story

Regional Estuaries Initiative

REGIONAL ESTUARIES INITIATIVE

The Regional Estuaries Initiative (REI) is the State Government's whole-of-government investment in the health of key WA estuaries comprising the Peel-Harvey Estuary, Leschenault Estuary, Vasse-Geographe waterways, Hardy Inlet, Wilson Inlet and Oyster Harbour.

Entering its final year of a four-year program this financial year, the initiative developed innovative on-ground actions for catchment-scale outcomes. By partnering widely, we use a system-stewardship approach, combined with good science, to improve water quality. This helps us understand the current health of our estuaries, and direct catchment investment where it will have the biggest impact.

In March 2020, we undertook a trial of an algal bloom-preventing clay in the Serpentine River – the largest trial of its type in WA.

Funded through the REI program, 18 tonnes of phosphorus-binding clay was applied to the stretch of river over the four-day trial – aiming to reduce algal growth by binding phosphorus in the water and forming a protective layer on sediments (reducing phosphorus release).

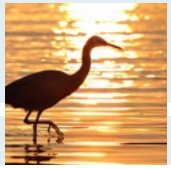
The largest of four clay trials, it represents the next stage of our scientists working to identify ideal clay application rates for different environments, improve clay manufacturing processes and undertake a detailed risk assessment for large-scale clay applications.

The project has the potential to pave the way for future measures to reduce the risk of algal blooms across WA waterways.

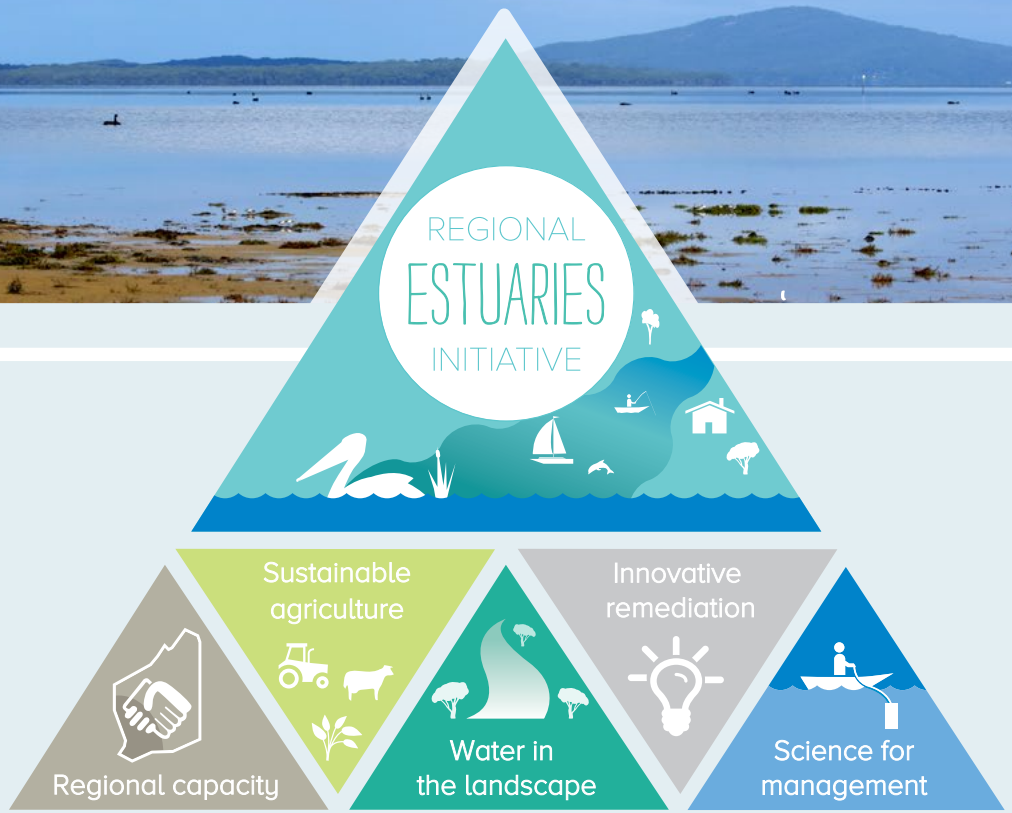
Throughout the past four years, REI has:

- established 11 formal partnerships and engaged more than 200 stakeholders directly involved in steering or delivering the initiative







- directly employed more than 100 people
- engaged more than 600 farmers through the sustainable agriculture strategy
- fenced off more than 120 km of foreshore on agricultural land
- taken over 1,500 seagrass observations across four estuaries
- set up four soil amendment sites across nine hectares to trial methods of holding nutrients in agricultural soils
- been a finalist at the state Australian Water Association Awards (October 2019) – recognised for its innovative whole-of-system approach to estuary health.

The strong partnerships forged over the past four years have increased awareness of the issues facing our estuaries and connected people who can help. Now our partners are using the initiative to find partners of their own, creating further momentum for change.

The work started by REI is set to continue in coming years under Healthy Estuaries WA.

Healthy Estuaries WA will maintain the momentum built by REI and will expand to include the Torbay catchment on the south coast.

▶ Revitalising Geographe Waterways

The department's Revitalising Geographe Waterways (RGW) Program aims to improve water quality, waterway health, and management of Geographe waterways. It is overseen by the inter-agency Vasse Taskforce, chaired by Dr Sally Talbot, MLC.

Since establishment, the RGW Program has helped improve water quality in the Vasse Wonnerup wetlands and Toby Inlet, delivered a 75 per cent reduction in nutrients entering Geographe Catchment waterways, and enhanced community awareness and confidence in government-led water quality initiatives.

Revitalising Geographe Waterways

VASSE taskFORCE

In 2019–20, a further $1.6 million was invested in the program to sustain water quality improvements and community confidence.

During the past 12 months, the RGW Program:

- worked with partners and the community to reduce nutrients entering waterways from rural and urban areas
- implemented priority actions in the Lower Vasse River and Toby Inlet
- continued monitoring of catchment waterways and the Vasse Wonnerup wetlands, assessing water quality trends over time and any potential impacts of the program.

The work started by RGW is set to continue under Healthy Estuaries WA, working in collaboration with partners and the community to undertake monitoring of priority waterways, and implement key actions from water management plans.

Healthy Estuaries WA

Healthy Estuaries WA is a $25 million State Government commitment, building on the work of the Regional Estuaries Initiative and delivering core actions of Revitilising Geographe Waterways.

Launched by the Minister for Water, Hon. Dave Kelly, MLA in the Torbay Catchment near Albany on 5 June 2020, Healthy Estuaries WA will focus on improving the health of Peel-Harvey Estuary, Leschenault Estuary, Vasse-Geographe waterways, Hardy Inlet, Wilson Inlet, Torbay Inlet and Oyster Harbour.

This project is supported by the State Government's Royalties for Regions commitment.

Service three: Water regulation, licensing and industry governance

The department's responsible, proportional regulation ensures investment, growth and development is supported by sustainable management of the state's water resources. This service includes management of water licensing and permits. It also includes management of the legislation governing the operations of water service providers.

Water licences administered 2019–20

13,751
licences and permits

Water licensing

WA's prosperity depends largely on secure, sustainable and fit-for-purpose water supplies, where fit-for-purpose means recognising that not all water uses – such as dust suppression and some industrial uses – call for high-quality drinking water.

Overall water use in the state has almost doubled in the past three decades and projections show demand will again double by 2050.

The rising demand is heightening competition for available water in many parts of the state and, when coupled with the impacts of climate change in the state's south-west, is increasing the number of fully allocated water resources and the complexity of water resource management.

Licensing is our principle regulatory tool for ensuring that our water resources and dependent ecosystems are protected, and that water is allocated for productive and efficient use. We issue licences and permits to regulate the use of water for mining, agriculture, horticulture, irrigation of public parks and recreation spaces, and many other purposes that benefit the state's economy and community.

More than 71 per cent of WA's licensed water supports industry and development, while about 14 per cent is used in homes.

At 30 June 2020, we administered 13,751 water licences and permits across the state and managed 468 groundwater and 228 surface water resources respectively.

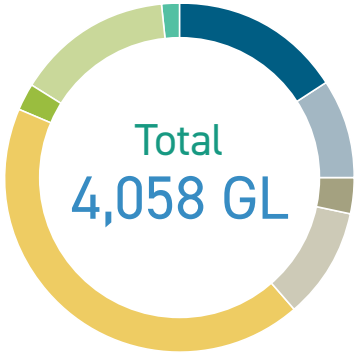
In 2019–20, a total of 4,058 gigalitres of water was licensed for use. This comprised 3,085 gigalitres from groundwater resources and 973 gigalitres from surface water resources. Surface water figures contain licensed dam storage volumes that are not always available for use because of climate and inflow variation.

Western Australia's water users by sector

Total licensed volume by sector

- **Agriculture** 651 GL (16%)
- **Industry and power generation** 135 GL (3%)
- **Mining** 1,732 GL (43%)
- **Public water scheme supply** 589 GL (15%)
- **Commercial and institutional** 372 GL (9%)
- **Irrigation scheme supply** 414 GL (10%)
- **Parks, gardens and recreation** 104 GL (3%)
- **Other*** 61 GL (1%)

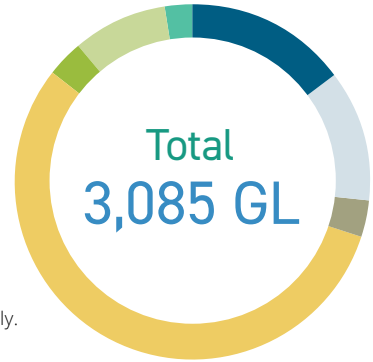
*Other includes environment and conservation, and stock and domestic.



Groundwater licensed volume by sector

- **Agriculture** 456 GL (15%)
- **Industry and power generation** 105 GL (3%)
- **Parks, gardens and recreation** 103 GL (3%)
- **Other*** 71 GL (2%)
- **Commercial and institutional** 370 GL (12%)
- **Mining** 1,712 GL (56%)
- **Public water scheme supply** 268 GL (9%)

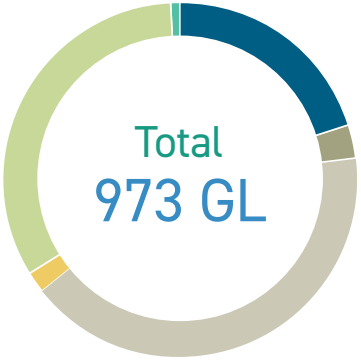
*Other includes environment and conservation, stock and domestic, and irrigation scheme supply.



Surface water licensed volume by sector (allocated volume)

- **Agriculture** 195 GL (20%)
- **Irrigation scheme supply** 400 GL (41%)
- **Public water scheme supply** 321 GL (33%)
- **Industry and power generation** 30 GL (3%)
- **Mining** 19 GL (2%)
- **Other*** 7 GL (1%)

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



Please note: The sector volumes (both individual and totalled) in each of these charts have been subject to rounding.

A total of 3,110 licence applications were received in 2019–20 and 3,329 were processed. A total of 2,092 were licences to take groundwater, 241 were licences to take surface water and 756 were a combination of permits to interfere with bed and banks, licences to construct wells and agreements. The remaining 240 applications were either refused, rejected, not required or withdrawn. A total of 130 private water entitlement trades between licensed water users were approved in 2019–20, comprising 90 permanent trades and 40 temporary trades equating to a total transacted volume of 19.5 gigalitres.

All water licensees across WA with a licensed entitlement above 50 ML per year are required to measure and submit their water use online. As of 1 December 2019, all Gnangara groundwater areas allocation plan water licenses with entitlements of 10 ML and over are also required to measure and report their water use.

Our measurement and monitoring of licensed water use was significantly enhanced in 2019–20, following the staged introduction of these new metering requirements over the past three years. In total, 97 per cent of all water licensed for use in WA now requires metering or alternative measurement.

Delivery of water licences

Our department has introduced a number of key business improvement initiatives across our water regulation services, resulting in significant performance improvements over the past 12 months – particularly in water licensing.

Successful implementation of the Water Licensing Backlog Action Plan in early 2018 has driven a significant reduction in the number of water licence applications open for a period of more than 65 days. From a high of 589 on 31 March 2019, to a two-year low of 173 in 2019–20, we are well within the performance target of 350 applications or fewer.

The average time taken to process a water licence application has also been substantially reduced. It now takes the department 46 days to process a low-risk application, 85 days for a medium-risk application and 87 days for a high-risk application.

Notably, the average processing duration for low-risk applications (which currently represent more than 80 per cent of all water licence applications received by our department each year) is 19 days fewer than the performance target of 65 days, while the high-risk average processing duration is eight days fewer than the 95-day target.

Water compliance

Water is a precious resource, particularly within the context of climate change, increasing population and growth in the state's economy. We administer water resource management legislation that enables the taking of water while protecting our water-dependent environments.

Legislation provides the basis on which water is allocated to users in WA and also prescribes offences and penalties when statutory provisions are breached. We undertake a range of compliance and enforcement activities primarily aimed at the protection of water resources and the water-dependent environment.

In 2019–20, our on-ground compliance monitoring effort was targeted to at-risk management areas across WA. A total of 6,859 compliance monitoring events were completed, consisting of comprehensive on-ground water licence compliance inspections, water meter audits, desktop water use surveys and a review of licensee submissions.

Investigative and enforcement activities were prioritised based on the seriousness and scale of the alleged offence, the conduct of the responsible parties and public interest considerations. We focused on offences that posed the greatest risk of harm to water resources or that undermined public confidence in effective water resource management. Examples of detected non-compliance included the unauthorised taking of water, exceedance of licensed water entitlements, and failure to install water meters and submit readings.

In 2019–20, 1,352 investigations were finalised, resulting in the issue of 288 education letters and warning notices aimed at encouraging and assisting voluntary compliance. We also continued to deliver broad-scale and targeted stakeholder education initiatives, which sought to assist licensees' understanding of their statutory obligations and comply with the terms, conditions and restrictions of their individual water licences.

Where voluntary compliance could not be achieved, we escalated our response to statutory enforcement action. In 2019–20, 39 infringements and eight directions were issued and two prosecutions were commenced.

Water compliance in 2019–20

1,352
investigations were finalised

288
education letters and warning notices were issued

➤ Response to non-compliance

Category	2017–18	2018–19	2019–20
Water licence compliance checks	2,450	4,367	6,859
Incidents of suspected non-compliance identified	1,335	2,132	3,858
Incidents of suspected non-compliance resolved	878	780	1,352
Education letters and warning notices	237	278	288
Licence amendments	0	0	0
Infringement notices	54	38	39
Direction notices	14	13	8
Prosecutions	0	1	2

Water licensing fees

Contemporary water management across Australia recognises the principle of user pays, with water licensing fees for the mining and public water supply sectors paid by licensees. Before the introduction of these fees on 13 November 2018, WA was the only Australian state that did not recover the costs of licensing services from applicants or holders of water licences and permits.

The fees, made by amendments to the Rights in Water and Irrigation Regulations 2000, relate to applications for:

- a new section 5C licence to take water
- renewing a section 5C licence to take water
- licensee amendments to a section 5C licence to take water
- a section 26D licence to construct or alter wells
- section 11, 17 or 21A permits to interfere with the bed or banks of watercourses.

The mining and public water supply sectors are two of the largest water users by total volume, requiring significant effort in assessing licence and permit applications. The fees for these two sectors recognise the need to meet the costs of assessing water licence and permit applications from which the industries derive a benefit.

Only the applications that trigger assessment are subject to fees. The fee structure is based on the level of effort for assessing an application and generally increases with the scientific complexity and potential environmental impact of the application.

We aim to provide easy-to-use digital and support services to help people and companies manage their water and environmental business. By moving low-complexity interactions to digital services, we are improving the client experience, as well as reducing our costs.

Improved best management practices to address spills

In 2019–20, we produced an updated guideline on how to address contaminant spills to ensure water quality is protected.

The water quality protection note *WQPN 10: Contaminant spills – emergency response plans* provides businesses and industries with straightforward information about how they can prevent spills of contaminants such as hydrocarbons and chemicals. It also outlines what to do in an emergency if spills do occur.

This guideline was prepared by the department's source protection and pollution response teams, and is available on our website.

2

Outcome two

Emissions, discharges and clearing of native vegetation are effectively regulated to avoid unacceptable risks to public health and the environment.

We work to achieve this through the following key service area.

Service four: Environmental regulation

The department seeks to prevent, control and abate activities that have the potential to cause pollution or environmental harm. It has adopted a risk-based approach to delivering its regulatory role, which broadly fits into three main functions:

- licensing and approvals
- monitoring, audit and compliance inspections
- enforcement, including complaint and incident investigation.

Native vegetation clearing regulation

During 2019–20, the department received 335 clearing permit applications, granted 284 clearing permits and refused three applications. In addition to these, 102 applications were withdrawn by applicants and 11 applications were declined. Of the applications received, 61 were applications to amend an existing clearing permit. The average time for determining these applications (excluding stop clocks) was 70.8 days. A total of 50 per cent of clearing permit applications were determined within the 60-day target timeframe, an improvement on the 49 per cent assessed within this timeframe in 2018–19.

Clearing permit applications are also assessed and determined under delegation by the DMIRS. The above performance figures do not include permit applications processed by DMIRS.

To facilitate further performance improvements, the State Government's increase in fees for clearing permit applications came into effect on 1 July 2019, following consideration of feedback received during consultation.

The additional revenue is being reinvested into the department to improve resourcing for assessment and compliance against clearing permit applications, and to improve business systems.

Industry regulation

To support the State Government's COVID-19 recovery strategy, the department has added further short-term resourcing to address application backlogs. A number of internal reforms have also been prioritised which are aimed at improving the efficiency of clearing permit application assessments.

Our interactive historical statistics webpage continues to provide publicly accessible data on native vegetation clearing authorised through clearing permit applications.

Works approvals and licences place regulatory controls on the construction and operation of industrial premises to ensure there are no unacceptable impacts from emissions and discharges to public health or the environment.

In 2019–20, our industry regulation division received 541 works approval and licence applications and 458 were determined. The average time for determining applications was 80.7 days, compared with 81.6 days the previous year when the department received 479 applications.

At 30 June 2020, 1,075 licences and 316 works approvals were active across the state.

Active licences and works approvals 2019–20

1,075
licences

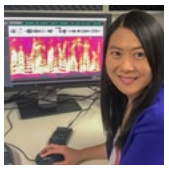
316
works approvals











Improving delivery

The previous numbers demonstrate an improved performance from our Industry Regulation directorate, with more applications received in 2019–20 compared with 2018–19, and the average timeframe for approvals also being reduced.

In 2019–20, we continued to develop our internal processes to improve the way we make decisions as well as carrying out projects to improve the timeliness and delivery of our services.

Highlights include:

- Finalising a backlog project which addressed old and invalid applications in the resources sector. A total of 100 of these applications identified in January 2019 have now been addressed.
- Continuing to explore opportunities to streamline assessment and approvals processes to reduce processing timelines. This includes the procurement of external consultants to assist in further reducing assessment and approvals timeframes and the number of backlog applications.
- Developing the Waste Facility Fire Pollution Prevention Strategy. Following a catastrophic fire at a material recycling facility in November 2019, the department inspected and undertook statewide fire-risk assessments across more than 40 facilities accepting combustible waste. Inspections that identified a potential high risk were referred to the Department of Fire and Emergency Services for further investigation. Where necessary, premises will be further regulated through licensing under the EP Act.

  Better practice guidelines for the storage and treatment of waste are being developed and will include minimum standards for the prevention and control of fire risk at these types of waste facilities.

  We also worked towards a community-education campaign to ensure waste is appropriately sorted at the source to help prevent items such as batteries and flares creating a fire risk at waste management facilities.
- The department has commenced the development of guidelines for the management of dust from bulk

In 2019–20, we continued to develop our internal processes to improve the way we make decisions.

handling at Port Hedland, through the engagement of a third-party independent expert. The guidelines are part of the recommendations of the Port Hedland Dust Taskforce.

The department concluded its stakeholder consultation on its Regulatory Strategy for Port Hedland which has short-term (next five years) and medium-term (5–10 years) regulatory strategies. Our objective remains to ensure that dust emissions from premises licensed under the EP Act are not increased in the short-term, and are reduced following the introduction and implementation of the dust management guidelines.

Building our regulatory capability

Throughout 2019–20, we remained committed to our role as a responsible and credible regulator – delivering a one stop shop for environmental and water regulation and building our collective capability across our regulatory functions.

In 2019–20, key achievements in this space included:

- Implementing a standardised policy framework across our regulatory deliveries.
- Publishing procedures for industry, native vegetation and water regulation – aligning our stages of assessment.
- Enhancing our one stop shop webpage – bringing our policies, procedures, guidance and updated application forms together for ease of access for our stakeholders.
- Integrating our regulatory performance reporting.
- Delivering inaugural Part V (industry and native vegetation regulation) training in collaboration with the Environmental Consultants Association.
- Releasing the Better Practice Composting Guidelines – the department collaborated with the Australian Organics Recycling Association to ensure industry had an opportunity to provide input into the development of these. The draft guidelines link the *Waste Resource Recovery Act 2007* and Waste Avoidance and Resource Recovery Strategy 2030 objectives to ensure waste is managed or disposed of to better practice facilities by 2030, with the department's regulation of Part V prescribed premises under the EP Act. The draft guidelines were released for public consultation in May 2020.

- Aligning regulatory reporting with other parts of the department, including significant work to ensure a consistent approach to reporting regulatory data across the board.
- Improving industry guidance, including well-progressed development and consultation on separate guidelines for:
  - » emissions to land
  - » emissions to water
  - » emissions to air
  - » noise emissions
  - » dust emissions
  - » prescribed premises categories.
- Continuing work on streamlining and simplifying our regulatory approvals processes, including developing a tiered assessment approach for our native vegetation regulation and industry regulation functions.
- Working towards the release of the department's regulatory approach in 2020 to provide clear understanding for our stakeholders on how we undertake our regulatory functions, what stakeholders can expect from us, and how all of our regulatory activities fit together to achieve water and environmental outcomes.

In 2019–20, we continued to work closely with key regulatory stakeholders through our Regulatory Stakeholder Reference Group. We have more than 20 members representing State Government, LGAs, industry, and the community. The group met on four occasions during the financial year to discuss a wide range of issues, bringing together our water and environmental regulatory deliveries as part of our one stop shop program of work.

▶ Streamline WA

A flagship project underpinning our work is Streamline WA – a whole-of-government initiative making it easier to do business in WA by improving regulation and regulatory practice.[4]

Together with our partners at the DMIRS, we are leading the Streamline WA initiative (supported by the Department of Treasury).

In support of the state roadmap to recovery from the COVID-19 pandemic, our department accelerated and refocused reform efforts on streamlining regulatory processes, including implementing a tiered assessment approach for clearing and industry regulation.

[4] Launched at the end of 2018, Streamline WA is one of the State Government's Public Sector Reform initiatives to deliver better services and outcomes for Western Australians.

Feature Story

Environment Online

In 2019–20, we continued to work towards the delivery of Environment Online – a major program under our digital strategy, which builds on investment in our Water Online platform to replace legacy environment regulation business systems.






Environment Online is a customer-focused, digital one stop shop for environmental assessment, approvals and compliance for industry and developers in WA. It will improve the transparency and consistency of environmental approvals, and reduce the time taken for major projects to navigate joint State and Australian Government approvals processes by 6–12 months.

In May 2020, the State Government committed an additional $12.4 million to complete this initiative, adding to the Australian Government's $7.5 million in funding and the department's $8.1 million – resulting in total funding of $28 million.

Environment Online will help accelerate the delivery of more than $100 billion worth of major projects in the development pipeline and the jobs that come with them.

It will also ensure projects are delivered in a responsible way and safeguard the protection of WA's natural environment.

The initiative will be complemented by the establishment of a Biodiversity Information Office, led by the Department of Biodiversity, Conservation and Attractions, which will provide a cost-effective system to capture, store, curate, publish and analyse biodiversity data throughout WA. It extends the work of our Index of Biodiversity Surveys for Assessments.

As part of a suite of other measures to reduce assessment timeframes, we are continuing to work with the State and Australian Governments to progress bilateral approval agreements.

Air quality services

Throughout the year, the department remained focused on its role of protecting and maintaining air quality in WA.

We continued 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.

During 2019–20, we undertook a range of operations, including:

- A particulate monitoring campaign (including installing a light detection and ranging [LiDAR] system) in Geraldton between February and May 2020. The system has the capacity to send out light beams and record the backscattering of this light from particles in the air at a distance of up to 4 km – enabling assessment of the source and pathways of particles in the air.

  This program is one of a number of general surveillance programs planned over coming years to assess air quality within major metropolitan and regional centres.

- An ongoing capital replacement program to ensure our ambient air quality network is technologically capable of providing the high-quality data required for accurate assessment of air quality. This includes Quinns Rocks – a northern metropolitan monitoring site which underwent a major upgrade (completed in April 2020).

  One new site came online during the year (Mandurah: August 2019) and a second was constructed (Armadale). Data from these sites will be reported within the annual air monitoring report for WA, prepared in accordance with the National Environment Protection (Ambient Air Quality) Measure.

- A trailer-mounted instrument which allows the real-time assessment of heavy metals in ambient air was purchased by the department this financial year. Previously, heavy metals were assessed via high-volume samplers which required long sampling times of up to 24 hours. Using our new instrument, we can assess ambient heavy metal concentrations for periods of less than one hour.

- We continued to provide scientific peer review and oversight for the Collie Airshed Study – an industry-funded study to develop a consistent, rigorous assessment and air quality management regime for the Collie Basin. Once complete, the study will help establish a reliable scientific foundation, including a comprehensive air quality and meteorological database and verified computer models.

During the year we arranged access to the Pawsey Supercomputing Centre – a world-class user facility based in WA. We ran advanced 3D weather models to simulate meteorology at a fine resolution for the Collie region.

The monitoring component of this project was completed in 2019–20 and work is now focused on developing air quality models.

Contaminated sites

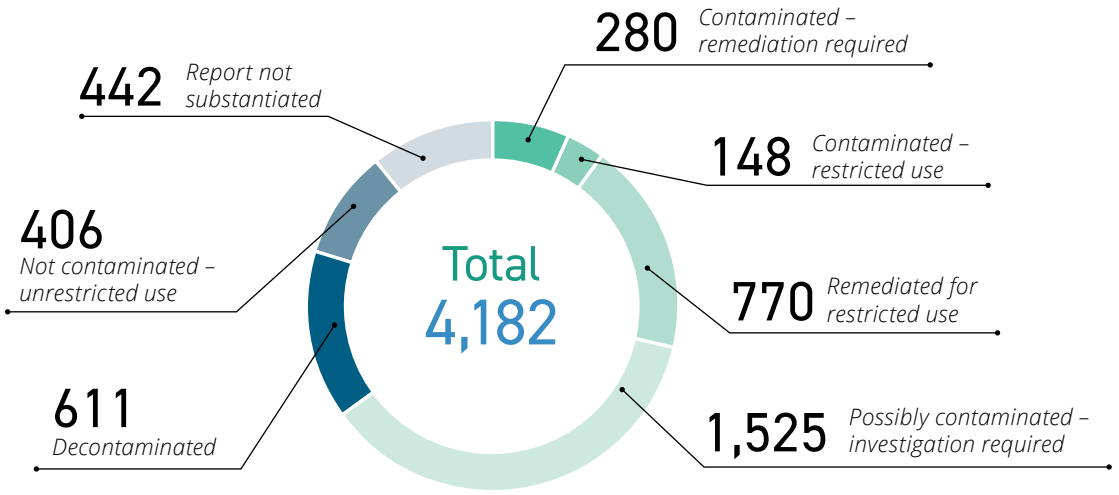
There were 194 known or suspected contaminated sites reported to us under the *Contaminated Sites Act 2003* (CS Act) between 1 July 2019 and 30 June 2020, and 356 sites were classified during the period. Each site typically is classified more than once to reflect new information. At 30 June 2020, a total of 4,182 sites had been classified under the CS Act.

In addition, we reviewed more than 115 acid sulfate soil reports and responded to about 500 requests for technical advice.

➤ **Number of sites reported and classified**

	Form 1 reports	Sites classified
2015–16	136	390
2016–17	371	448
2017–18	188	452
2018–19	220	368
2019–20	194	356

➤ **Classification of contaminated sites: Sites classified as at 30 June 2020**



Environmental noise

The department provides specialist environmental noise advice to several key stakeholders including the EPA, local and State Government agencies, and the community.

Environmental noise expertise also supports the department's policy, regulatory, and compliance and enforcement functions.

In its role of supporting WA LGAs to administer the Environmental Protection (Noise) Regulations 1997 (Noise Regulations), the department responded to eight requests for assistance with noise data analysis and about 40 requests for other environmental noise advice or support. Specialist environment noise advice was provided on 10 occasions that related to matters under EPA consideration, and in response to about 40 requests from other State Government agencies.

Further support was provided to LGAs in the form of noise regulation training, with about 45 officers being trained as at 30 June 2020.

Environmental compliance and enforcement

The department's annual compliance and enforcement program is based on risk and harm – ensuring resources are focused on premises and activities that pose the highest risk to the environment and community. The program provides periodic, systemic, documented and objective reviews of compliance status, management systems, overall environmental risk and the sufficiency of controls.

In 2019–20, we undertook 131 planned proactive prescribed premises inspections, as well as an additional 14 reactive inspections which resulted in the issuing of three statutory environmental protection notices, the amendment of four existing environmental protection notices, one prevention notice and nine formal warning letters.

Our analytical capabilities to monitor clearing of native vegetation were also boosted through the use of satellite imagery technology – providing near real-time intelligence to proactively monitor compliance with permits and detect unlawful clearing.

We also introduced satellite tasking with the ability to provide on-demand, high-resolution satellite imagery of any location in WA – assisting with our investigations and incident response functions.

▶ Intelligence function

In 2019–20, we further developed and incorporated an intelligence function into our Compliance and Enforcement directorate. This function enables us to consolidate and analyse data held across our department – providing high-level customer service and managing and processing pollution reports and other information received.

The function also has responsibility for interrogating and analysing data held to determine pollution and non-compliance trends, and assisting in the development

Environmental compliance investigations 2019–20

298
enforcement actions taken

40
convictions recorded

of strategically planned compliance and enforcement activities. This enables the department to direct resources where they will have the greatest impact.

By undertaking regular assessment, we can inform decision-making and resource allocation according to risk prioritisation – enabling us to:

- use data and evidence to identify patterns of harm and trends and problems
- define problems precisely
- determine how to measure impacts
- develop solutions and interventions
- implement plans with periodic monitoring, review and adjustment
- close the intervention when a problem is solved.

▶ Investigations

During 2019–20, investigations were undertaken in response to pollution and intelligence reports. The investigations were prioritised based on risk and harm, and formed one part of our compliance and enforcement approach.

When prioritising matters, we consider our regulatory principles and our compliance and enforcement policy, including the seriousness and scale of the alleged offence, the conduct of responsible parties, and public interest considerations.

Investigations resulted in 298 enforcement actions being taken by the department. The enforcement actions ranged from non-statutory notices, to statutory notices and directions, and the initiation of court proceedings.

In 2019–20, 40 convictions were recorded for:

- material environmental harm
- breach of licence conditions
- breaches of the controlled waste regulations
- causing premises to become prescribed
- unauthorised discharge of waste
- unauthorised taking of water
- unauthorised clearing of native vegetation.

Some of the convictions during the financial year included:

- a company being fined $1,000 for taking water without the correct authorisation
- a mining company receiving two modified penalty notices totalling $37,500 for discharging about 4.7 million litres of hypersaline water into the environment

Pollution response 2019–20

3,449
reports to Pollution Watch Hotline

235
pollution and emergency incidents responded to

- a mining company being fined $30,000 for failure to comply with licence conditions
- a company being fined $20,000 and ordered to publish its conviction in The West Australian newspaper for unlawfully clearing about 17 hectares of native vegetation.

▶ Controlled waste tracking

As a department, we are responsible for administering the Environmental Protection (Controlled Waste) Regulations 2004 – regulating the transportation of controlled waste on roads in WA.

Controlled waste licences 2019–20

481
new licences

1,303
renewals

Under the regulations, carriers, drivers and vehicles involved in transporting controlled waste need to be licensed and must report the movements of controlled waste using an online tracking system (as well as a paper-based system for small business operators). Controlled waste tracked under the regulations includes substances such as sewage, heavy metals, acids, arsenic, clinical waste, organic compounds, tyres, food processing and grease trap wastes, and waste pharmaceuticals and medicines.

In 2019–20, compliance and enforcement officers conducted a program to examine the classification, transportation, tracking and disposal of medical waste at licensed facilities across the Perth metropolitan region.

This year, 481 new licences and 1,303 renewals were processed by our Controlled Waste team. Over 225,000 collections of controlled waste totalling 994,532 tonnes were reported to the department on 90,977 controlled waste forms.

▶ Pollution response

This financial year we continued to respond to serious pollution and hazardous materials incidents under the EP Act and the *Emergency Management Act 2005*. Primary responsibility for responding sits with our 24-hour Pollution Response Unit. We work with LGAs and other State Government agencies to respond to incidents and emergencies statewide.

In 2019–20, we dealt with 3,449 reports to our 24-hour Pollution Watch Hotline and responded to 235 pollution incidents and emergencies, including industrial fires, chemical spills, hazardous materials releases, fuel tanker rollovers and oil spills.

We continued to work with LGAs under the Light Industry Inspection Program, educating light industries on how to reduce discharges of pollutants to the environment. This financial year, 293 light industrial inspections were completed.

Waste levy compliance

▶ Illegal dumping and littering

The department is responsible for investigating and prosecuting illegal dumping under the EP Act. On conviction, this offence carries a maximum fine of $125,000 for corporations and $62,500 for individuals.

In 2019–20, we investigated 325 illegal dumping and littering complaints. Working with LGAs and land managers, we identified offenders through surveillance footage (hidden cameras) and conducted regular patrols of known dumping sites to deter would-be offenders.

We instigated 27 prosecutions involving 52 charges for illegal dumping of waste and littering in the 2019–20 financial year, while 28 illegal dumping and littering prosecutions involving 49 charges resulted in court convictions.

Our staff also issued 150 infringement notices under the *Litter Act 1979*. Five recipients of infringement notices elected to have the matter heard before a Magistrate, with all upheld by the court.

The waste levy helps divert the amount of waste to landfill, encouraging investment in alternative waste treatment options and other State Government initiatives to support increased recycling.

In 2019–20, we conducted 74 inspections of landfill facilities and 52 inspections of other prescribed premises used for the purpose of processing waste, targeting compliance with the levy. The inspection of landfill premises ensured that those accepting metropolitan waste made the appropriate declarations and paid the waste levy applicable. Meanwhile, those premises processing waste ensured that when residual waste went to landfill the appropriate declarations were made and the correct waste levy was paid.

Highlights from the year included:

- information received from waste industry stakeholders resulting in further investigations related to alleged unauthorised waste activity
- relationships with LGAs regarding potential unauthorised landfilling or waste storage being strengthened, allowing early intervention and minimising environmental impacts
- further broadening the focus of our compliance program to include non-landfill waste premises, enabling us to identify and track waste to the final disposal points and reduce levy evasion.

Illegal dumping and littering investigations 2019–20

325	52	49
investigations	charges	convictions

3

Outcome three

Development and implementation of strategic policy and legislation that promoted sustainable environmental outcomes.

We work to achieve this through the following key service area.

Service five: Environmental and water policy

The department develops and implements strategic policy and legislation that promote sustainable environmental outcomes.

Policy

Our focus on developing and implementing strategic policy statewide continued throughout the financial year, with key consultation in this space including:

▶ Aboriginal Water and Environment Advisory Group

To support the development of statewide policy, our department consulted with the Aboriginal Water and Environment Advisory Group, made up of representatives drawn from regions across WA. During 2019–20, the group met twice to discuss water and environment policy matters including legislation reform, waste and water management.

▶ Noongar Standard Heritage Agreements

In 2019–20, under the terms of the South West Native Title Settlement, we entered into standard heritage agreements with six Noongar Traditional Owner groups. These agreements will help protect Aboriginal heritage in areas where our department carries out ground-disturbing works, such as bore construction.

▶ Water service domestic violence code

As part of State Government initiatives to combat domestic violence, work commenced on development of a domestic violence code in 2019–20. The code (which applies to water utilities) will recognise the needs of people experiencing domestic violence and ensure water service providers implement supportive policies and procedures. Compliance with the code will be a requirement of water service licences.

State Climate Policy

The State Government has committed to developing a coordinated State Climate Policy to adapt to the impacts of climate change and contribute to national emissions reduction targets.

The State Climate Policy will address the challenges of climate change with a range of actions for WA.

The policy will draw together and build on current initiatives underway across government, ensuring WA captures the opportunities of the low carbon transition – working to achieve our ambition of net zero emissions for the state by 2050, as announced on 28 August 2019.

The State Climate Policy will address the challenges of climate change with a range of actions for WA.

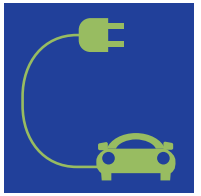
In September 2019, the department released the *Climate change issues paper* for public consultation, focusing on the issues and opportunities climate change presents for WA.

Over 3,700 submissions were received and these will inform the development of the new policy.

Because of the COVID-19 pandemic, it is now expected that the State Climate Policy will be finalised and published before the end of 2020.

This will allow for alignment of the policy with the State Government's support for economic recovery from the pandemic.

State Electric Vehicle Strategy



A WA Electric Vehicles Working Group, chaired by our department, is developing a state Electric Vehicle Strategy for consideration by State Government. The Electric Vehicle Strategy is being developed alongside the new State Climate Policy.

In 2019–20, the working group investigated actions to support the uptake of electric vehicles across our state, focusing on the areas of charging infrastructure, standards and guidelines, and fleets.

Input has been sought from the public through submissions to the *Climate change issues paper* and further targeted consultation has taken place with stakeholders from industry, academia, energy utilities, government agencies, training providers and vehicle associations, and councils.

Environmental offsets review

The department continued to progress the review of the state's environmental offsets framework – assessing its effectiveness in delivering environmental objectives and preparing an implementation plan for the review's recommendations in consultation with stakeholders.

Consultation on the implementation plan was delayed as a result of the COVID-19 pandemic.

Related initiatives were progressed through the development of the Green Jobs Plan.

Feature Story

Clean Energy Future Fund

At the end of April 2020, the State Government opened applications for the first round of funding as part of its Clean Energy Future Fund.

Administered by the department (with support from Energy Policy WA), the $9 million* fund is expected to support the development of innovative clean energy projects.

Eligible projects can apply for funding of between $250,000 and $2 million per scheme, with the State Government funding up to 25 per cent of costs.

Projects will be evaluated on their capacity to reduce emissions, potential for wider adoption, project innovation and financial viability.

First-round funding priority will be given to projects at facilities required to report under the National Greenhouse and Energy Reporting Scheme, as well as those in regional and remote areas.

All applications will be assessed by an executive group, with recommendations made to WA's Minister for Environment, Hon. Stephen Dawson, MLC and Minister for Energy, Hon. Bill Johnston, MLA who will make a final, joint decision.

In addition to initial State Government seed funding, royalties from future unconventional onshore oil and gas projects in WA will be directed to the fund.

* The State Government announced an additional $10 million to the fund on 28 July 2020.

Feature Story

EP Act amendments consultation

In October 2019, the State Government released the *Modernising the Environmental Protection Act discussion paper* – seeking community and industry feedback on proposed amendments to the EP Act.

The discussion paper presented background information on the proposed reforms and was accompanied by the release of an Exposure Draft Bill.

The proposed amendments aim to improve regulatory efficiency and effectiveness and facilitate the implementation of the bilateral agreements under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* to deliver better environmental protection and sustainable development outcomes.

These proposed amendments have been informed by a number of reviews since 2006 and feedback from industry, conservation, government and community stakeholders.

During the consultation process for the amendments, the department delivered briefings to a number of State Government agencies and stakeholder groups across WA, as well as holding a public information session. In total, 101 submissions were received during the consultation period, which are summarised in the published consultation summary report.

After considering the submissions and issues raised, the Environmental Protection Amendment Bill 2020 was introduced to State Parliament, and passed through the Legislative Assembly on 28 May 2020.

The amendments support a modern EP Act that will streamline and improve regulatory processes for the protection of the environment in WA. The changes will:

- deliver more efficient, risk-based and flexible assessment and approval processes
- improve enforcement powers
- support a greater focus on strategic assessments and cumulative impacts
- increase penalties for select environmental offences.

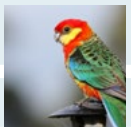
The proposed amendments were introduced into the Legislative Council on 6 June 2020.











Murujuga Rock Art Strategy

Murujuga is the traditional Aboriginal name for the Dampier Archipelago and surrounds, including the Burrup Peninsula. It is home to the Ngarda-Ngarli, a collective term for the five Traditional Owner groups – Ngarluma, Yindjibarndi, Yaburara, Mardudhunera and Wong-Goo-Tt-Oo – who have been part of this cultural landscape for tens of thousands of years and have a deep spiritual connection to it.

With more than one million images, Murujuga is home to one of the largest, densest and most diverse collections of rock art in the world. The archaeological record also includes campsites, quarries, shell middens and standing stone arrangements, including lines of up to 400 stones.

With more than one million images, Murujuga is home to one of the largest, densest and most diverse collections of rock art in the world.

The State Government is committed to protecting the rock art of Murujuga and considers that its unique Aboriginal cultural and heritage values can co-exist with a well-regulated industry and new economic opportunities that deliver benefits to the local community.

Building on the release of the *Murujuga Rock Art Strategy* in early 2019, the State Government announced in February 2020 the appointment of registered Aboriginal business Puliyapang to develop and implement a scientific and monitoring analysis program for the area. This will

build on work over the past 15 years to determine whether the Murujuga rock art is being subjected to accelerated change from the impacts of industry and shipping emissions.

We are working in partnership with the Murujuga Aboriginal Corporation to oversee the monitoring program, and evaluate and report on trends and changes in the condition of the rock art. The program forms an important component of the management framework required for World Heritage listing, supporting co-existence between the Aboriginal heritage values and industry on Murujuga.

The Murujuga Cultural Landscape was added to Australia's World Heritage Tentative List in February this year.

Native Vegetation Policy

In late 2019, the *Native vegetation issues paper* was released for public consultation on initiatives to improve native vegetation management and make regulation more efficient and effective.

More than 1,000 stakeholders from a range of sectors participated by providing submissions and attending one of the 15 workshops held across the state from November 2019 to February 2020.

Across sectors, there was broad support for the reforms proposed in the issues paper, which included a state Native Vegetation Policy and improving the information base for evidence-based decisions on native vegetation.

Using this feedback, the department has been working across government to prepare a draft of the first-ever Native Vegetation Policy for WA. A draft policy will be released in late 2020 for public consultation, along with the submissions on the issues paper and a consultation summary.

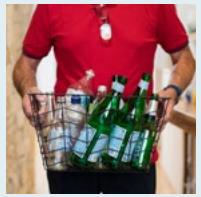
This will provide stakeholders with an opportunity to see how their input has informed policy development.

The department has been working across government to prepare a draft of the first-ever Native Vegetation Policy for WA.

Feature Story

Containers for Change

Originally intended to commence on 2 June 2020, WA's container deposit scheme (Containers for Change) was delayed as a result of the impact of COVID-19 to protect public health and the financial viability of scheme participants.



Containers for Change is set to launch on 1 October 2020 – paving the way for reduced litter, improved recycling rates, and the creation of new business and employment opportunities across the state. The scheme will support WA's economic recovery from COVID-19 by providing revenue, employment, and fundraising opportunities for charities, schools, local sports clubs and other community organisations in every region of the state.

Containers for Change will enable Western Australians to claim a 10-cent refund when they return eligible beverage containers at designated refund points across WA.

The scheme is expected to create more than 500 jobs and has been designed to provide employment opportunities for people with disability, the long-term unemployed, and Aboriginal and Torres Strait Islander peoples, as well as opportunities for apprentices and trainees.

Modelling shows that over the next 20 years the scheme will recycle 6.6 billion containers, of which 5.9 billion would have been landfilled and 706 million would have been littered.

Substantial progress was made during the year on preparations for the scheme, including a financial assistance package of up to $3.5 million to support network participants impacted financially by deferral of the scheme because of COVID-19 – ensuring they remain viable until scheme commencement. Further grants of more than $200,000 were also awarded to 138 refund and donation point operators to build infrastructure to support community groups, schools, sporting clubs and not-for-profit organisations to participate in the scheme.

Containers for Change will be run by WA Return Recycle Renew Ltd (WARRRL) – a not-for-profit company responsible for establishing the collection network and managing its day-to-day operation.

Action on single-use plastics

Building on the State Government's successful implementation of the lightweight plastic bag ban last financial year, we continued to work towards solutions for reducing single-use plastics more broadly across our state.

With research showing the WA community is concerned about the impact of plastics pollution on the environment, we released the *Let's not draw the short straw reduce single-use plastics issues paper* and survey in April 2019. We received close to 9,500 submissions, with 98 per cent of respondents supporting further action to reduce single-use plastics.

Feedback from the consultation, complemented by evidence-based research on the environmental impacts of single-use plastics and an analysis of measures implemented in other jurisdictions, has been used by the State Government to identify options for consideration.

Further action on single-use plastics in WA was delayed as a result of the impacts of COVID-19, with an announcement on additional measures set to be made later in 2020.

Noise in entertainment precincts

In late 2019, the State Government, with the City of Perth, announced new planning and environmental reforms to improve the management of amplified music noise in the state's entertainment areas while providing key protections for new residential development.

The *Managing amplified music noise in entertainment precincts consultation paper* recognises that noise-sensitive encroachment presents challenges for established entertainment venues, impacting their capacity to comply with current noise regulations.

The paper sets out a number of reform options, including the establishment of special entertainment precincts in town planning schemes together with venue approvals to provide an option for entertainment venues to exceed the assigned (prescribed) noise levels in the noise regulations. A total of 77 submissions were received by the department during the public consultation period.

Designating an area as a special entertainment precinct will help provide better protection for entertainment venues and clear and consistent guidelines for new developments.

The reforms also include a draft Western Australian Planning Commission position statement. The City of Perth is seeking to establish Northbridge as a special entertainment precinct through a local planning scheme amendment.

4

Outcome four

Waste avoided and the recovery of materials from landfill maximised.

We work to achieve this through the following key service area.

Service six: Waste strategies

The department provides support for waste avoidance and to maximise the recovery of materials from landfill.

Waste Avoidance and Resource Recovery Strategy 2030

The *Waste Avoidance and Resource Recovery Strategy 2030* (waste strategy) envisages that the state will become a sustainable, low-waste, circular economy in which public health and the environment are protected from the impacts of waste.

To achieve this, much of the waste we generate must be valued as a resource that can be reused or recycled for the benefit of the economy and the environment.

Materials that could be recovered are being sent to landfill, stockpiled indefinitely or disposed of illegally. Where they do not create a risk to public health or the environment, materials can be re-evaluated as fit-for-purpose products.

In 2019–20, the State Government released two consultation papers to support the implementation of the waste strategy – *Closing the loop: Waste reforms for a circular economy* and *Review of the waste levy* – which invited Western Australians to have their say on potential reforms to guide the future of waste management in the state.

The two papers also outline options for reforms to assist the State Government with its commitment to having at least 75 per cent of waste generated in WA being reused or recycled by 2030.

Closing the loop: Waste reforms for a circular economy outlines legislative proposals to improve waste management across the state including:

- reforming landfill and solid waste storage facility licensing under the EP Act

- reviewing the application of the waste levy at waste facilities, including new measures to reduce long-term solid waste stockpiling
- targeting illegal waste disposal through new compliance and enforcement mechanisms
- strengthening of waste reporting and tracking in WA to ensure the proper disposal of waste.

The *Review of the waste levy* canvasses broader strategic issues related to the levy's design (including the geographical area of the levy) and a schedule of future levy rates. To allow time for the review to be completed, there will be no increase to the waste levy for 2020–21.

Consultation for both waste reform papers commenced on 20 February 2020. To assist waste stakeholders, the consultation closing date was extended from 15 May 2020 to 15 July 2020.

The submissions received by the department will be considered in the development of future waste reform directions for WA.

Following public consultation from June–September 2019 on the issues paper *Waste not want not: valuing waste as a resource*, the department is also progressing a proposed legislative framework to support the use of fit-for-purpose, waste-derived materials and WA's move to a circular economy.

Further public consultation is anticipated on the proposed waste-derived materials framework later in 2020.

Waste Reform Advisory Group

Following its establishment in March 2019, the Waste Reform Advisory Group informs the development of waste and recycling policy and legislation in WA as part of the waste strategy and state waste targets.

The group includes representatives from the Waste Authority, LGAs, peak industry and resource bodies, community groups, non-government organisations, and material recovery operators.

Throughout 2019–20, the group continued its inclusive approach to developing policy and legislation focused on supporting the best waste outcomes for the community, industry and the state.

Council of Australian Governments waste export ban

During the year, the department supported the design of a national policy – announced by the Council of Australian Governments – to ban the export of waste plastics, paper, tyres and glass. We also worked on a response strategy to support the implementation of these bans.

Under the policy, proposed ban dates are:

Glass	1 January 2021
Tyres	1 December 2021
Plastic	Phase One: 1 July 2021
	Phase Two: 1 July 2022
Paper	1 July 2024

Our response strategy received State Government funding, to be matched by the Australian Government, of $15 million to support local processing of plastics and tyres and a contribution of up to $5 million to enable access to industrial zoned land.

The strategy focuses on decreasing the amount of waste going to landfill and maximising the capability of Australia's waste management and recycling sector to collect, recycle, reuse, convert and recover waste – ensuring we meet our ban targets going forward.

Waste projects

▶ Better Bins and Better Bins Plus: Go FOGO

The Better Bins Program (Better Bins) supports LGAs to move towards a three-bin kerbside collection system (general waste, co-mingled recycling and mostly garden organics, with a few instances of food organics being included) to assist residents in improving source separation and increasing recovery of waste.

Better Bins opened in 2014 as a pilot and ran as a fully operational program from 2016 to 30 June 2019. The State Government provided over $14.6 million to 28 metropolitan LGAs and regional councils during this time.

The program helped LGAs provide better practice kerbside services to more than 550,000 households in WA. The final round of funding for Better Bins closed on 30 June 2019.

The Better Bins Plus: Go FOGO Program supports LGAs to make the transition to three-bin food organics and garden organics (FOGO) services consisting of a red-lidded bin for general waste, a yellow-lidded bin for co-mingled recycling, and a lime-green-lidded bin for FOGO.

LGAs are now eligible to apply for funding of up to $25 for each household receiving a three-bin FOGO collection service. It is anticipated that FOGO may also help to reduce waste management costs.

LGAs that have already rolled out FOGO kerbside collection services remain eligible to apply for this funding, but must direct it at new expenditure to support existing FOGO services. For those that have already accessed Better Bins funding of $30 per household, an additional $15 per household can also be applied for.

The Waste Authority's *Better practice FOGO kerbside collection guidelines* describe better practice three-bin kerbside collection services including mobile kerbside bins; kitchen caddies and compostable liners; complementary educational measures; and actions to support markets for FOGO-derived materials.

Better Bins Plus: Go FOGO is supported by the WasteSorted Toolkit which helps LGAs and regional councils to communicate with residents about how to sort their waste correctly.

WasteSorted
A Waste Authority Program

In 2019–20, we worked with the Waste Authority (with support from the FOGO Reference Group) to deliver a series of online sessions to further support the rollout of FOGO collection services.

During April and May 2020, we delivered four sessions to participants comprising:

Session 1	Setting the scene: An overview of FOGO commitments and actions, as well as a look into key issues and challenges.
Session 2	Processing and markets: A focused look at the organics processing sector, as well as an overview of available support and guidance in this area.
Session 3	LGA services: Providing insight into managing the transition of existing services to FOGO across the state.
Session 4	Engagement and education: A summary of research findings on waste attitudes and behaviours in WA and an overview of the WasteSorted Toolkit.

Waste grant funding

Delivered on behalf of the Waste Authority, the Community and Industry Engagement (CIE) Program supports organisations that promote better waste management behaviours, practices and awareness.

In September 2019, program funding of $914,000 was awarded to 12 projects focused on improving recovery and reuse of materials identified in the waste strategy such as plastics, construction and demolition waste, food organics and e-waste, as well as initiatives promoting behaviour change.

The COVID-19 pandemic impacted delivery of the CIE Program during the financial year. This included delays to recycling equipment delivery from international suppliers; an inability to run group meetings and workshops, as well as major public campaigns and events; and difficulties arising from a weakened Australian dollar exchange rate and the sale value of recyclables.

We are continuing to keep recipients informed, and negotiate and document necessary revisions to deliverables and/or scheduling to achieve program success.

Waste Wise Schools Program

The Waste Wise Schools Program (WWS) works with schools in WA to implement educational strategies for avoiding waste and recovering waste as a resource. It also aims to reduce waste to landfill while developing positive environmental values in students and the wider school community.

Participating schools model responsible environmental behaviours through hands-on learning experiences linked to the Australian Curriculum.

This year, highlights included:

- A total of 214 accredited WWS, 43 of which are newly accredited. In addition, 18 schools were recognised for 10 consecutive years of WWS accreditation.
- Grants being provided to 56 accredited schools for projects such as paper and

plastics recycling systems, composting and worm farming, waste wise vegetable gardens, and reuse collection infrastructure. A total of $148,000 was awarded during the financial year.

- Delivering nine professional development workshops, while educational waste audits were undertaken at 41 schools.

Waste Wise Schools 2019–20

214
accredited schools

$148,000
awarded

- Providing funds to support waste management activities in schools in Kalgoorlie-Boulder, the Kimberley and Perth's southern suburbs to deliver waste education workshops at early years learning services.
- Developing and providing waste management curriculum materials to schools, to support teachers in the delivery of waste wise education to Western Australian students. The program was also evaluated, with improvements set to be implemented in the next financial year.

The COVID-19 pandemic meant WWS put all waste audits and face-to-face professional workshops on hold.

During this time, resources were adapted to provide continued support to schools involved in online learning and students undertaking homeschooling.

▶ Roads to Reuse

The Roads to Reuse (RtR) Program is a State Government initiative administered by the Waste Authority. The objective is to encourage State Government agencies, LGAs, regional councils and the private sector to use recycled construction and demolition (C&D) products in civil applications, such as road construction. We achieve this by supporting the supply to market of recycled C&D products which meet a product specification to protect public health and the environment.

C&D waste makes up about half of WA's waste stream and represents about 45 per cent of material recovered from recycling. We are working hard to increase the recovery of C&D to meet the state's material recovery targets and the Premier's 2030 target to reuse or recycle at least 75 per cent of waste generated in WA.

In 2019, we successfully completed our RtR pilot project with Main Roads WA – utilising more than 30,000 tonnes of recycled C&D

waste in the Kwinana Freeway Widening and Murdoch Drive Connection project.

Main Roads WA is continuing to use RtR material in further project works, solidifying the success of this program and normalising the use of recycled material.

Funding for RtR can be accessed via the Waste Avoidance and Resource Recovery Account and is available for C&D recyclers through the RtR Product Testing Scheme. An independent audit function, delivered by specialist auditors, was managed and overseen by the department using funds from the Waste Avoidance and Resource Recovery Account.

To increase the sustainable market for C&D materials, the State Government is encouraging more construction projects undertaken by government and the private sector to incorporate the use of recycled materials into their design and planning processes.

The department continues to work closely with Main Roads WA, Development WA, Infrastructure WA and the Department of Finance on the sustainable procurement policy to encourage greater use of recycled materials.

▶ Household Hazardous Waste Program

The Household Hazardous Waste (HHW) Program funds LGAs and regional councils to collect, store, recover and dispose of HHW. The program is managed by the Western Australian Local Government Association and administered by the Waste Authority on behalf of the State Government.

This year, funding of $50,000 was allocated to construct a new HHW facility in the City of Fremantle, which is set to become operational by the end of 2020. The facility will join an existing recycling centre at Montreal Street in the city. The funding will also be used to purchase equipment to enable staff to safely accept, handle and store the dropped-off HHW materials.

Household Hazardous Waste Program 2019–20

318+ tonnes

of materials collected for safe recovery or disposal

The facility will bring the total number of permanent facilities across the state to 14 (nine metropolitan, five non-metropolitan).

Since 2008, thousands of tonnes of materials have been collected through these facilities and temporary collection events. In 2019–20, more than 318 tonnes of materials (including acids, batteries, flammable liquids, paint and cleaning products) were collected for safe recovery or disposal.

Awareness within the community is increasing; however, ongoing community education is required, with plans to encourage greater use of these free services underway.

5

Outcome five

Quality advice to the Environmental Protection Authority (EPA) and Minister for Environment on significant proposals and environmental issues.

We work to achieve this by supporting the EPA in the following two key service areas.

Service seven: Environmental impact assessment services to the EPA

The EPA is an independent authority that provides advice to the Minister for Environment. The department provided services to the EPA to conduct environmental impact assessments (EIA) of significant development proposals, strategic proposals and planning schemes.

Development proposals

During 2019–20, 45 development proposals were referred to the EPA for EIA.

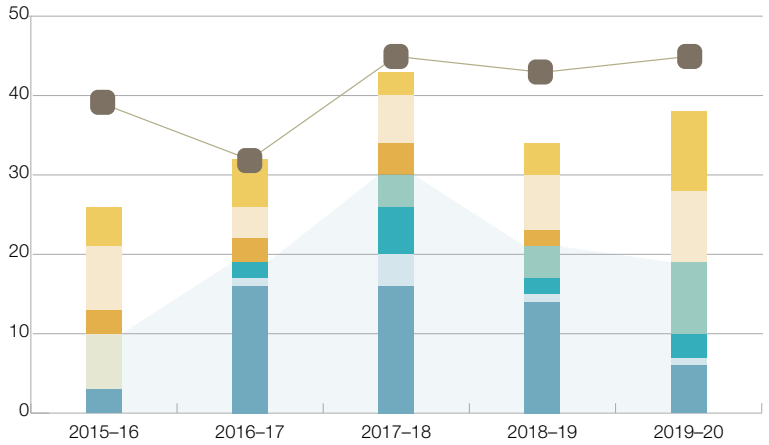
Following examination of the referral information and any further information requested, the EPA determined that 19 referred proposals required formal assessment and 19 proposals did not require further assessment by the EPA.

Of the 19 that did not require further assessment, the EPA provided specific advice to the proponents of nine of these proposals on environmental aspects.

The EPA has approached the determination for the assessment on referral information level with increased flexibility. The purpose of this approach is to streamline the process for this level of assessment, by only requiring additional information from proponents that is essential to the assessment, and ensuring relevant information is subject to public review where necessary. This is reflected by the increasing number of proposals determined as referral information, with specific requirements for additional information and/or requiring public review.

This is represented in the graph below, which shows the total number of proposals referred to the EPA and the decisions made on the level of assessment.

➤ Total development proposals referred to the EPA and decisions on level of assessment



Total received	
Not assessed	No advice given
	Public advice given
	Managed under Part V*
Assessed	Assessment of proponent information (category A)**
	Referral information – with public review
	Referral information – no public review
	Environmental review – no public review
	Public environmental review

* Descriptor now considered under 'Not assessed: No advice given'
** Level of assessment is no longer used

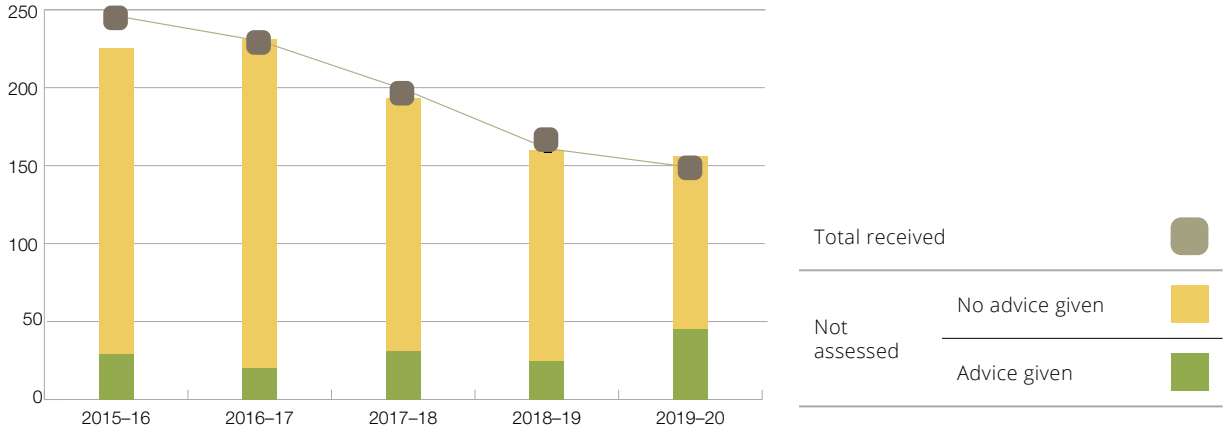
Planning schemes and scheme amendments

In 2019–20, 149 planning schemes and amendments to schemes were referred to the EPA for EIA. Because of planning reforms introduced in 2014–15, the number of these referrals continued to decline.

Following assessment of the referral information, the EPA determined 156 did not require further assessment during 2019–20.

Of the 156 that did not require further assessment, the EPA provided advice and recommendations on environmental factors to the responsible authority on the environmental issues raised by the scheme for 45 referred schemes.

➤ **Total schemes and scheme amendments referred to the EPA and 'not assessed' decisions**



Completed assessments

During 2019–20, we provided support to the EPA to complete 40 assessment reports to the Minister for Environment. This is a 60 per cent increase from last year, and the most reports completed since 2010–11. The majority of this work (24 reports) addressed requested changes to the conditions of existing proposals under section 46 of the EP Act.

The following map shows the location and type of all proposals for which assessment reports were completed in 2019–20.

This financial year the EPA completed its assessment of the Asian Renewable Energy Hub – one of the largest renewable energy projects in the world. The proposal involves the construction of up to 1,743 wind turbines, 2,000 megawatts of solar panels, above- and below-ground transmission cables and four subsea power cables, covering an onshore and offshore development envelope of 662,400 hectares in the Pilbara. The proposal also requires 11,962 hectares of permanent native vegetation clearing.

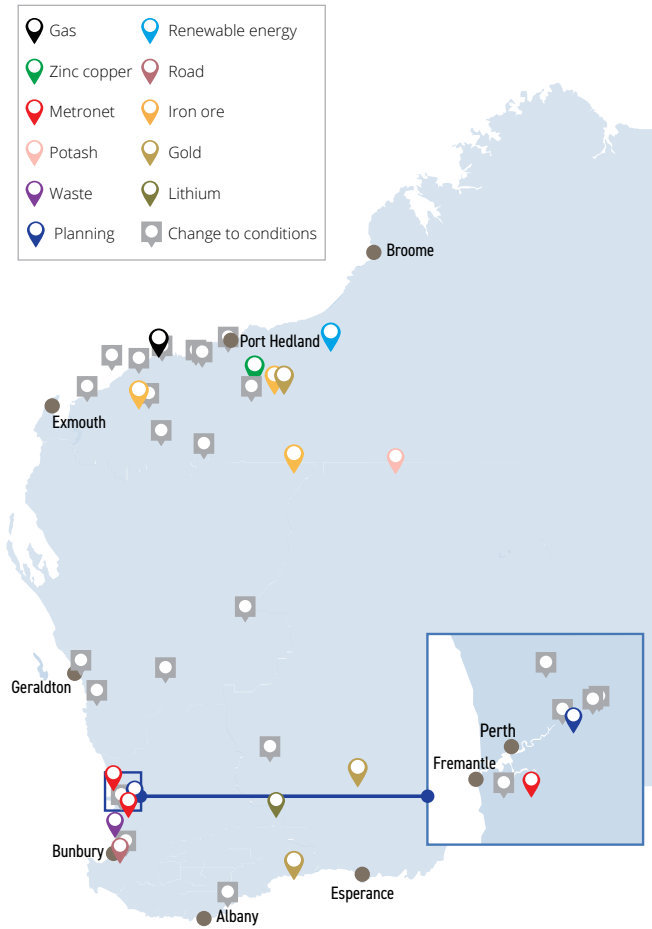
The EPA recommended conditions requiring environmental management plans that ensure the proponent avoids, mitigates and implements management measures to minimise the potential impacts of the proposal on terrestrial fauna, flora and vegetation, marine environmental quality, marine fauna and benthic communities and habitat.

The EPA also recommended a condition ensuring sustainable decommissioning and rehabilitation of the site once operations have ceased.

Type of assessment	2016–17	2017–18	2018–19	2019–20
Formal assessments				
Public environmental review	11	5	10	7
Environmental review (no public review)	-	-	2	1
Assessment on referral information (no public review)	1	5	2	3
Assessment on referral information (with public review)	-	1	1	5
Strategic proposal	-	1	-	-
Assessment on proponent information (Category A)*	5	-	-	-
Changes to conditions				
s. 46 inquiry	14	7	9	24
Total	31	19	24	**40**

*Level of assessment is no longer used

Location and type of all proposals for which assessment reports were completed in 2019–20



Other assessment work

Following the formal assessment of development proposals, the Minister for Environment may issue a Ministerial Statement so that an assessed proposal may be implemented. The statement may include conditions such as the preparation and approval of Environmental Management Plans (EMPs).

To address the growing number of EMPs submitted, the department initiated the EMP project in February 2020. The project identified 155 EMPs submitted during or before 2019 and, since February 2020, 73 have had a determination made and 82 remain active. Through this project the department has addressed almost 50 per cent of EMPs identified within the project.

During 2019–20, the department made a determination on 100 EMPs (62 were from the EMP project) and 105 remain active (82 from the EMP project are included here).

Following the issue of Ministerial Statements, proponents may request to change the characteristics of a proposal approved within a statement. During the year, department staff assisted the EPA to determine 28 requests to change a proposal after assessment, and 39 requests remain active.

Environmental Management Plans 2019–20

100 determined

105 remain active

The overall existing assessment workload for development proposals is 248. This includes EMPs, requested changes to conditions and proposals in Ministerial Statements, referrals yet to be determined, and formal assessments.

Service eight: Environmental management services to the EPA

The department supports the EPA to develop statutory policies, guidelines and strategic advice to manage environmental impacts and protect the environment.

EPA guidelines and procedures framework review

We continued to implement recommendations from the review of the EPA's guidelines and procedures framework, reported in our 2017–18 annual report. The review has ensured a clear and contemporary guidelines and procedures framework for the EPA.

In 2019–20, the EPA also published the *Environmental factor guideline – greenhouse gas emissions* and the *EPA policy framework manual*. The EPA's Environmental factor guideline on dredging is also underway and is expected to be published in late 2020.

Our support for environmental protection continues as an active body of work. Some examples include:

- Regular consultation with the EPA's Stakeholder Reference Group, which ensures the direct contribution of key external stakeholders and peak industry bodies who provide input to the EPA on its guidelines, processes and performance. The group met four times during 2019–20.
- Continued opportunities for public participation in the EIA process. These include seven-day public comment periods on referrals received and public review periods for environmental review documents. Members of the public are encouraged to participate in consultation by offering advice, identifying omitted relevant data or information, providing local knowledge and proposing alternatives.

Index of Marine Surveys for Assessment

IMSA

Feature Story

In March 2020, we launched the Index of Marine Surveys for Assessment (IMSA) – an online portal to information about marine-based environmental surveys in WA.

Developed by the department in collaboration with the Western Australian Marine Science Institution, it is the first platform of its kind to deliver systematic capture and sharing of marine data taken as part of an EIA.

With an estimated $50 million spent annually undertaking marine surveys for EIAs in WA, IMSA has been developed to centralise this data and make it publicly available. The free and easy-to-use platform provides access to marine survey reports, metadata and map layers through the department's BioCollect online portal (provided by Atlas of Living Australia), as well as processed data products and raw data packages (hosted at the Pawsey Supercomputing Centre).

By collating and providing access to existing data, IMSA will lead to lasting environmental benefits for WA, including more efficient EIAs and an expanded knowledge base of the state's vast marine environment.

It will also deliver cost savings by reducing the need for repeated and potentially overlapping surveys, as well as improving the availability and transparency of environmental information to the community. This will give proponents and government better baseline information, while building trust in the EIA and environmental regulation process.

As part of the platform's implementation, everybody who conducts or uses marine-based surveys to support EIAs under parts IV and V of the EP Act is required to submit data to IMSA as part of these processes.

IMSA captures all marine survey data generated through an EIA process including oceanographic, hydrodynamic, benthic habitat, marine environmental quality and marine fauna data. The platform answers longstanding calls to change the way environmental information is managed in WA and further supports the State Government's commitment to strengthen data sharing.

IMSA complements the Index of Biodiversity Surveys for Assessments (IBSA) – the department's online portal to information about land-based biodiversity surveys in WA. This web platform enables consultants and proponents to directly submit data packages to IBSA, replacing the previous system that relied on email submissions.

IBSA delivers greater consistency for proponents engaging with the submissions process, improves the quality of data submitted, reduces the time required to complete IBSA-related tasks, and aligns with future digital initiatives – such as Environment Online – which will further streamline the assessment process.

6

Outcome six

Compliance with Ministerial Statement implementation conditions are monitored effectively.

We achieve this by delivering the following key service area.

Service nine: Compliance monitoring services to the Minister for Environment

The department audits compliance with conditions set under Ministerial approvals and undertakes enforcement action as appropriate.

Compliance with Part IV of the EP Act

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 that 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.

As outlined in Service 4: Environmental regulation – 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, onsite inspections, and stakeholder engagement.

The annual program enables resources to be effectively managed to achieve the best environmental outcome. The results from the compliance audits identify areas for improving proponents' compliance and inform future annual programs and the EIA process.

Compliance and audit activity

Under our 2019–20 program, we continued to monitor significant proposals authorised under Ministerial Statements, completing 44 audits including iron ore mining activities, oil and gas facilities and large infrastructure projects. A total of 234 compliance assessment reports were reviewed and 15 notices of non-compliance were reported.

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