Environmental Protection Authority

Annual Report 2018–19

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This report is available in alternative formats upon request.

Letter to the Minister

Hon. Stephen Dawson
Minister for Environment

In accordance with section 21 of the *Environmental Protection Act 1986*, I submit for presentation to Parliament, the Annual Report of the Environmental Protection Authority for the year ended 30 June 2019.

Dr Tom Hatton, PSM, ATSE
Chair, Environmental Protection Authority

27 September 2019

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Message from the Chair

Dr Tom Hatton | Chair, EPA

The Environmental Protection Authority (EPA) is charged with significant responsibilities in protecting the Western Australian environment for present and future generations.

As prescribed in the *Environmental Protection Act 1986*, the EPA must use its best endeavours to protect the environment and to prevent, control and abate pollution and environmental harm. It is important to remind the Western Australian community of the responsibility placed on the EPA Board as they undertake their duties throughout the year.

This Annual Report outlines the Board's endeavours over the past year to protect the Western Australian environment. It also reflects the current challenges facing Western Australia's environment and the work the EPA anticipates to address these challenges in coming years.

We completed the final year of our *Strategic Plan 2016–19*, and our new *Strategic Plan 2019–22* sets out our focus for the next three years. You will find more information on our *Strategic Plan 2019–22* on page 22.

Assessments

The EPA continues to see an increase in the diversity and complexity of proposals requiring formal assessment. This includes METRONET proposals, oil and gas developments and infrastructure on the Burrup Peninsula, lithium and iron ore mines, irrigation and potash projects as well as planning scheme amendments. In 2018–19, the EPA determined to assess 21 proposals and six scheme amendments. The six schemes to be assessed represent a significant increase on previous years, underscoring the case for strategic environmental planning across the Perth region.

Looking ahead, the EPA anticipates further referrals for new large energy proposals, as well as assessments following requests to review existing ministerial statements for operations on the Burrup Peninsula.

In last year's Annual Report we noted our recommended approval of BHP Billiton Iron Ore's Pilbara Strategic Proposal, which sets out the company's Pilbara mining operations for the next 50 to 100 years.

Following the EPA's six years of careful consideration and assessment of the environmental impacts of this proposal, the Minister for the Environment issued the Ministerial Statement for this proposal in July 2019.

Greenhouse gas emissions

An ongoing environmental challenge is the appropriate mitigation of greenhouse gas emissions in Western Australia. The EPA has provided greenhouse gas advice on more than 40 proposals over the past two decades. The Board is cognisant that Western Australia's greenhouse gas emissions continue to rise, are well above 2005 emission levels, and new resource and energy proposals anticipated in the coming decade are expected to significantly add to Western Australia's emissions.

In March, the EPA released new greenhouse gas assessment guidelines for proponents of significant proposals in Western Australia. These guidelines were drawn in the context of contemporary climate science, emissions trends, existing policies and regulation and, ultimately, the risks posed to the Western Australian environment.

The information the EPA might seek on emissions information and mitigation were made more explicit, and concerns were raised by some stakeholders that these potential expectations were not reasonable or practical. The EPA acknowledged those concerns and withdrew the guidelines pending further consultation with industry and the community. The EPA intends to release its new greenhouse gas emissions guidelines in early 2020.

On a separate note, the EPA called for a review of the state's climate policy in 2017, and acknowledges the state government's recent greenhouse gas emissions policy and commitment to develop a new climate change policy.

Timeliness

The EPA appreciates and is aware of the time pressures associated with environmental impact assessments. The Department of Water and Environmental Regulation has undertaken extensive recruitment this year to increase staffing levels to address the growing workload in EPA business. Other actions that will improve timeliness of EPA advice are the consolidation of our capability at Joondalup, developing initiatives to better capture and share assessment information, and the establishment of a clear entry point for assessment work coming to the EPA.

Acknowledgements

This year has seen some changes to the membership of the EPA Board. I thank Dr Jim Limerick for his three years of excellent service, and welcome Dr Jenny Pope to the Board. Jenny brings a wealth of experience in environmental management and sustainability.

One of the EPA's major achievements this year was the recognition we received from the International Association for Impact Assessment for pioneering work and leadership in promoting best practice in impact assessments. This award recognised the EPA's role in producing the first biodiversity offsets policy in Australia and being the first jurisdiction in Australia to introduce provisions for strategic environmental assessment. I commend our support staff for all their hard work in assisting with the environmental impact assessments.

On behalf of the EPA, I am pleased to present this Annual Report to the Minister for Environment and the Western Australian Parliament.

Dr Tom Hatton, PSM, ATSE

Chair, Environmental Protection Authority

At a glance 2018–19

EPA is an **independent** statutory authority that provides advice on environmental matters direct to the Western Australian Minister for Environment.

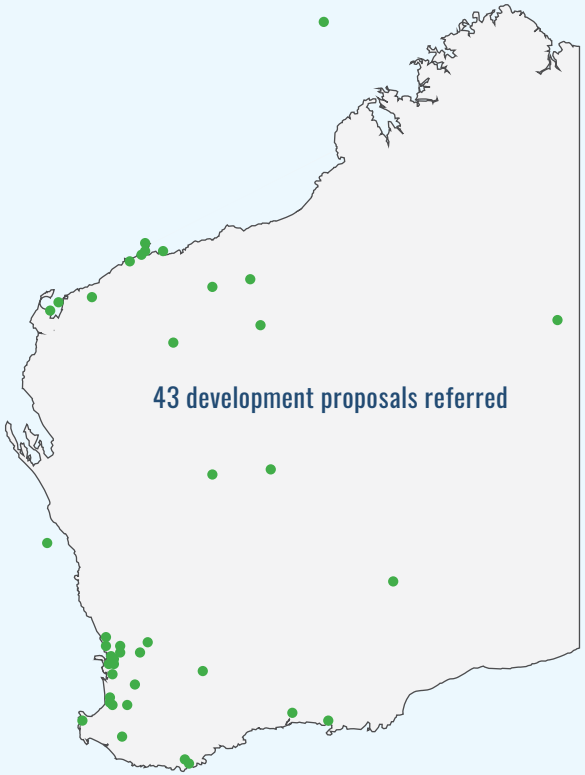
Recognised for best practice by the International Association for Impact Assessment.

Completed final year of the *Strategic Plan 2016–19*:

1. Provide sound advice
2. Provide robust advice
3. Provide transparent advice
4. Foster strategic and regional consideration of potential short- and long-term environmental impacts

43 development proposals and **161** schemes referred for a decision on whether:

- formal assessment by the EPA is required, or
- no further assessment by the EPA is required.



Determined to formally assess **21** referred proposals and **6** referred schemes.

Provided public advice for **7** referred proposals and **25** referred schemes.

Completed **24** formal assessments including the first METRONET project.

Met with the **Stakeholder Reference Group** quarterly.

Initiated the **Murujuga air shed study.**

Received **5140** comments on referrals via the online consultation hub.

Received **1177** comments during the public review period for proposals under assessment via the online consultation hub.

Commenced comprehensive **stakeholder consultation** on the greenhouse gas emissions guidance.

Progressed with innovations in **digital environmental impact assessment.**

Published the **Carnaby's cockatoo technical report.**

About the EPA

Our role

The EPA was established in 1971. It consists of a five-member Board appointed by the Governor of Western Australia to provide independent environmental advice to the Minister for Environment. Neither the board, nor the Chair, is subject to the direction of the Minister. The Minister is required to ensure the EPA is provided with services and facilities necessary to enable the EPA to perform its functions. Those services and facilities are provided by the Department of Water and Environmental Regulation.

Board members

Dr Tom Hatton, PSM, ATSE
Chair

Dr Tom Hatton was a Member of the Board from November 2014 to November 2015, and was then appointed as the Chair.

Dr Hatton has a Bachelor of Science *(summa cum laude)* and Master of Science in Natural Resources from Humboldt State University, and a doctorate from the College of Natural Resources at Utah State University.

Following post-doctoral studies in mathematics at the University of New South Wales, he joined the CSIRO as an environmental scientist, working on the many water-related challenges facing Australia. Over a 25-year career at the CSIRO, he directed the Water for a Healthy Country Flagship as well as the Wealth from Oceans Flagship, Australia's largest water and marine research portfolios. In this role he was responsible for delivering research directly underpinning the efficient and responsible development of Australia's natural resources while ensuring the conservation of the environmental and social values. In 2014, Dr Hatton retired as CSIRO Group Executive for Energy, responsible for national facilities and capabilities in renewable and non-renewable energy, and mining research and development.

In 1999, Dr Hatton was awarded the inaugural WE Wood Award for scientific excellence in the field of salinity research, and the Utah State University Alumni Professional Achievement Award. In 2008, he received the CSIRO Chairman's Medal and the Australian Public Service Medal for his contributions to the management of Australia's water resources. Dr Hatton chaired the Western Australian Marine Parks and Reserves Authority (2012–15) and chaired the 2011 Australian State of the Environment Committee. He is an adjunct professor at the University of Western Australia and serves on the boards of the International Centre for Radio Astronomy Research and the Western Australia Parks Foundation.

Dr Hatton was inducted as a fellow of the prestigious Australian Academy of Technology and Engineering in 2017 for his contributions to the development of technologies and their application to natural resource management and his outstanding leadership in the development of water, marine and energy technologies.

Mr Robert Harvey
Deputy Chair

Mr Robert Harvey was appointed as the Deputy Chair of the Board in November 2012 and was reappointed in 2015.

Mr Harvey has degrees in engineering and a Master in Business Administration from The University of Western Australia.

He began his career as an engineer at the former Water Authority, specialising in resource management, planning and policy. His last position in the Water Authority was as Director Water Resources Planning. He was Executive Director of the Department of Justice from 1999 to 2003, where he was responsible for community corrections, juvenile justice and correctional policy.

From 2003 to 2009, Mr Harvey was Pro Vice-Chancellor and Dean of Business and Law at Edith Cowan University. He was a member of the Water Corporation Board from 2007 to 2012. On behalf of the Board, he convened a scientific panel to review the state's 50-year water plan – Water Forever. Mr Harvey was the Regional Director for the Winston Churchill Memorial Trust from 2013 to 2019. In 2010, Mr Harvey was appointed as a member of the Western Australian Planning Commission, remaining there until 2015.

Ms Elizabeth Carr, AM

Ms Elizabeth Carr was appointed as a member of the Board in October 2011 and was reappointed in 2014.

Ms Carr is a non-executive director with senior management experience in investment banking (Macquarie Group), technology (IBM) and government sectors (WA, NSW, USA). With over 20 years' board experience in the private, government, education and community sectors, her current roles include: Chair South Metropolitan TAFE (WA), Chair St Mary's Anglican Girls School (WA), Chair St Catherine's Aged Care Services (NSW), and Chair of the Department of Family and Community Services (NSW) Audit and Risk Committee. She is also a Director at icare NSW, Deputy Chair Kokoda Track Foundation, Vice President Harvard Club of Australia Council and a member of a number of NSW Government audit and risk committees.

Ms Carr has a Bachelor of Arts (Hons) from The University of Western Australia, a Master in Public Administration from Harvard University and a Diploma from the Australian Institute of Company Directors, of which she is a Fellow. She undertakes annual professional development, including with Harvard University.

In the 2017 Queens Birthday Honours, Ms Carr was recognised as a recipient of the Order of Australia (AM) for significant service to the community through voluntary contributions to the health, aged care, education and social services sectors.

Mr Glen McLeod

Mr Glen McLeod was appointed as a member of the Board in October 2013 and was reappointed in 2016.

Mr McLeod is an environmental and town planning lawyer with more than 40 years of experience. He has held senior positions in major Australian, English and American law firms. In July 2012, he established his independent niche firm, Glen McLeod Legal, where he practises in the areas of environmental and town planning law.

Mr McLeod is a Council member of the International Bar Association's Section on Energy Environment Resources and Infrastructure and a member of the WA Law Society's Education, and Environment, Town Planning and Local Government committees.

Mr McLeod is an Adjunct Professor at Murdoch University where he teaches units in environmental and town planning law. He is a member of the Advisory Group to the Murdoch Dean of Law and is a Fellow of the Royal Society of Arts. He was the recipient of the 2016 WA Law Society's Lawyer of the Year Award. Mr McLeod is the General Editor of the national loose-leaf publication *Planning Law in Australia* and an editor of the *Local Government Law Journal.*

Dr Jenny Pope

Dr Jenny Pope was appointed as a member of the Board in November 2018.

Dr Pope has over 30 years' experience in the fields of environmental management and sustainability in Western Australia and internationally. Dr Pope began her career as an environmental process engineer in the water and the oil and gas industries, before establishing a consultancy in Perth which she has operated for 20 years. Dr Pope currently holds a number of active academic positions; she is part-time Senior Lecturer in Environmental Management and Sustainability at Edith Cowan University; Extra-ordinary Associate Professor in Environmental Management at North-West University in South Africa; and Fellow of the University of Cambridge Institute for Sustainability Leadership in the UK.

Dr Pope holds a Bachelor of Engineering (Chemical) with first class honours, a Graduate Diploma in Science (Biotechnology), a Post-Graduate Certificate in Policy Studies (Ecologically Sustainable Development), and a PhD in Sustainability and Technology Policy. She is both a practitioner and an internationally recognised scholar of impact assessment, with a focus on sustainability assessment and social impact assessment. She is a member of the International Association for Impact Assessment and the Environment Institute of Australia and New Zealand.

Provide sound advice

Provide robust advice

Provide transparent advice

Foster strategic and regional consideration of potential short- and long-term environmental impacts

Strategic Plan 2016–19

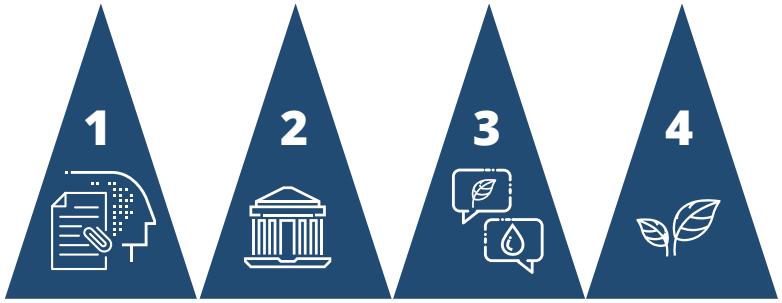
The EPA has completed its final year of the *Strategic Plan 2016–19*. The plan set out four strategies which outlined the focus of the EPA for the past three years.

The first three strategies (provide sound advice, provide robust advice and provide transparent advice) reflected a focus on building public confidence in the EPA, particularly with respect to environmental impact assessments. This included broadening the scientific advice accessed by the EPA, ensuring its policy and procedures sustained both merit and legal review, and evaluating the environmental outcomes of its advice.

The fourth strategy (foster strategic and regional consideration of potential short- and long-term environmental impacts) reflected the EPA's desire to develop and publish landscape-scale assessments and advice on key environments under pressure from cumulative impacts.

The EPA has broader responsibilities to promote environmental awareness and protect the environment and will continue to build on this strategy as part of its next strategic plan.

The EPA has recently finalised its *Strategic Plan 2019–22,* building on the progress made against the previous strategic plan.



Key achievements against the *Strategic Plan 2016–19*

1 Provide sound advice

- Continued to provide scientifically thorough and balanced advice in accordance with the EPA's environmental principles and objectives through the environmental impact assessment process.
- Commissioned peer reviews to assist in determining impacts where technical advice provided to the EPA on an environmental issue differed.
- Implemented recommendations from the 12-month review of the EPA's guidelines and procedures framework.
- Completed assessment reports for 75 proposals.

2 Provide robust advice

- Revised the suite of EPA guidance, procedures and templates, including the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures* and development of the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual*.
- Revised the way assessment reports are written.
- Completed evaluation projects, which reviewed the outcomes of environmental impact assessments. The findings of the evaluation projects would be used to improve the EPA's approach to assessments.

3 Provide transparent advice

- Continued engagement with the EPA's Stakeholder Reference Group, with the group having met 13 times.
- Published the findings of evaluation projects.
- Provided additional opportunities for public input during assessments, including public comment on further information for proposals with an 'Assess – Referral Information' level of assessment.
- Improved communication and access to the EPA's advice, including review of the EPA website functions.
- Digitised and published all historical EPA assessments and reports.
- Restructured the website to provide easy access to the case history of past proposals as well as those under assessment.
- Continued collaboration with the Western Australian Biodiversity Science Institute, industry and government to improve the sharing of biodiversity data for environmental impact assessment.

4 Foster strategic and regional consideration of potential short- and long-term environmental impacts

- Developed strategic advice on key areas of the state under development pressure, including the assessment of potential health and amenity impacts of dust at Mandogalup.
- Developed strategic advice to address environmental issues, including the technical report on Carnaby's cockatoo in environmental impact assessments.
- Completed the strategic assessment of marine aquaculture opportunities in the Pilbara and Kimberley.
- Completed the strategic assessment of long-term BHP mining operations in the Pilbara.
- Commenced consultation on the greenhouse gas emissions guidance.
- Published three annual reports with contemporary commentary on key environmental matters for the state.

Dr Tom Hatton | Chair, EPA

EPA recognised for best practice

The strategies of the EPA's *Strategic Plan 2016–19* are to provide sound, robust and transparent advice and to foster strategic and regional consideration of potential short- and long-term environmental impacts. Acknowledgment of the implementation of these strategies was evidenced in the EPA being awarded the Regional Award at the International Association for Impact Assessment (IAIA) Conference held in Brisbane, from 29 April to 2 May 2019.

The IAIA is the leading global network on best practice in the use of impact assessment for informed decision-making regarding policies, programs, plans and projects. Founded in 1980, the IAIA brings together researchers, practitioners and users of various types of impact assessment from all over the world. The association has more than 1700 members from 120 nations representing many disciplines and professions.

The IAIA Regional Award is awarded to a person or organisation that has made a substantial contribution to the field of impact assessment and/or has taken a leadership role in promoting best practice in impact assessment within the general world region of the location of the conference for the year. In presenting the award, IAIA conference organisers said the EPA has been both proactive and pioneering in developing policy and guidance material, such as producing the first biodiversity offsets policy in Australia and being the first jurisdiction in Australia to introduce provisions for strategic environmental assessment.

In acknowledging the award, EPA Chair Dr Tom Hatton noted the EPA was always striving for continuous improvement in the important work of environmental assessments and providing strategic advice on environmental matters. The EPA's streamlined guidelines and procedures framework has created a more transparent decision-making process and has been widely supported among stakeholders.

'IAIA conference organisers said the EPA has been both proactive and pioneering in developing policy and guidance material'

Environmental impact assessments

One of the EPA's fundamental roles is to conduct environmental impact assessment of referred significant development proposals, strategic proposals and planning schemes, and to provide the outcomes of the assessment to the Minister for Environment.

Referred proposals and schemes

During 2018–19 the EPA received the referral of 43 significant development proposals and 161 schemes.

The EPA may not necessarily make a determination on whether to assess a referred proposal or scheme in the same year that it is referred. Only when the EPA has sufficient information about a referred proposal or scheme, including the environmental impacts and management of those impacts, can it make a determination on whether formal assessment is required and if so, the level of assessment.

During the year, the EPA made a determination on 32 referred development proposals, and determined 21 of these required formal assessment, with 11 not requiring further assessment by the EPA.

The EPA made a determination on 167 schemes, and determined that six required formal assessment, one was incapable of being made environmentally acceptable and 160 did not require further assessment by the EPA.

Developments in Maddington Kenwick Strategic Employment Area

The Maddington Kenwick Strategic Employment Area surrounds the Greater Brixton Street Wetlands in Kenwick. The wetlands are within a Bush Forever site and are identified as one of the most important conservation areas on the Swan Coastal Plain.

The EPA noted in its Annual Report 2017–18 that it would formally assess two City of Gosnells' local planning scheme amendments for Precincts 2 and 3B of the Maddington Kenwick Strategic Employment Area. These scheme amendments propose to rezone rural land to facilitate the development of the area for large-scale industrial use. In December 2018, the EPA determined to formally assess the City of Kalamunda's Amendment No. 98 which is also within the Maddington Kenwick Strategic Employment Area and located next to the Bush Forever site.

The three scheme amendments (Precinct 2, Precinct 3B and Amendment No. 98) are currently being assessed by the EPA because the implementation of large-scale industrial development and provision of infrastructure could significantly impact key environmental values, particularly the Bush Forever site.

The EPA has provided the Cities of Gosnells and Kalamunda with instructions to prepare the environmental review documents required for the assessments and the studies to be undertaken. Once finalised, the environmental review documents will be advertised for public submissions, along with the scheme amendment documentation.

The EPA Annual Report 2017–18 also noted the establishment of a forest red-tailed black cockatoo roost in a stand of introduced trees within Precinct 3A of the Maddington Kenwick Strategic Employment Area, following the EPA's decision not to assess Precinct 3A in 2016. In November 2018, the Commonwealth Department of the Environment and Energy determined that a proposal to clear approximately 30 per cent of the roost did not require assessment under the *Environment Protection and Biodiversity Conservation Act 1999* despite the presence of the cockatoos. Although the proposal was not formally assessed at either the state or national level, the major landowner of Precinct 3A has fenced the roost, undertaken winter planting of habitat trees and will install a permanent water source. Periodic monitoring of the roost by the Great Cocky Count and consultants has shown that forest red-tailed black cockatoos continue to roost at the site.


Welshpool Rd East
Amendment 98
Precinct 3A
Precinct 3B
Precinct 2
Roe Hwy
Tonkin Hwy
Albany Hwy
Maddington Kenwick Strategic Employment Area
Bush Forever

Assessed proposals

In 2018–19, the EPA completed the formal assessment of 24 development proposals, and provided its report and recommendations to the Minister for Environment.

The formal assessments completed include the first project under METRONET, a potash proposal, a lithium mine and iron ore mines.

Green light for METRONET project

METRONET is one of the state government's most significant and ambitious infrastructure projects.

In May 2019, the EPA completed its assessment of the first stage of the Yanchep rail extension (Yanchep Rail Extension: Part 1 – Butler to Eglinton). Environmental approval was recommended, provided conditions were imposed on the proponent, the Public Transport Authority. Recommended conditions require the Perth Transport Authority to:

- minimise impacts to Carnaby's cockatoo and other local wildlife
- acquire offsets to counterbalance the predicted significant impact on the Carnaby's cockatoo habitat and a threatened ecological community
- implement an environmental management plan to minimise impacts to the locally significant Alkimos Parks and Recreation Reserve.

Noting the proposal is surrounded by urban development, the EPA acknowledged the Public Transport Authority's commitment to design and construct a fauna underpass to maintain native fauna movements through the Alkimos Parks and Recreation Reserve. The EPA supported the Authority's mitigation measures including noise walls and ballast matting to reduce the impact on current and future residents as well as engineering measures to minimise the risks of dune erosion.

The EPA is currently assessing the second stage of the Yanchep rail extension, from Eglinton to Yanchep, at the level of Public Environmental Review.

For more information refer to the EPA's report on Yanchep Rail Extension: Part 1 – Butler to Eglinton

Potash industry emerging

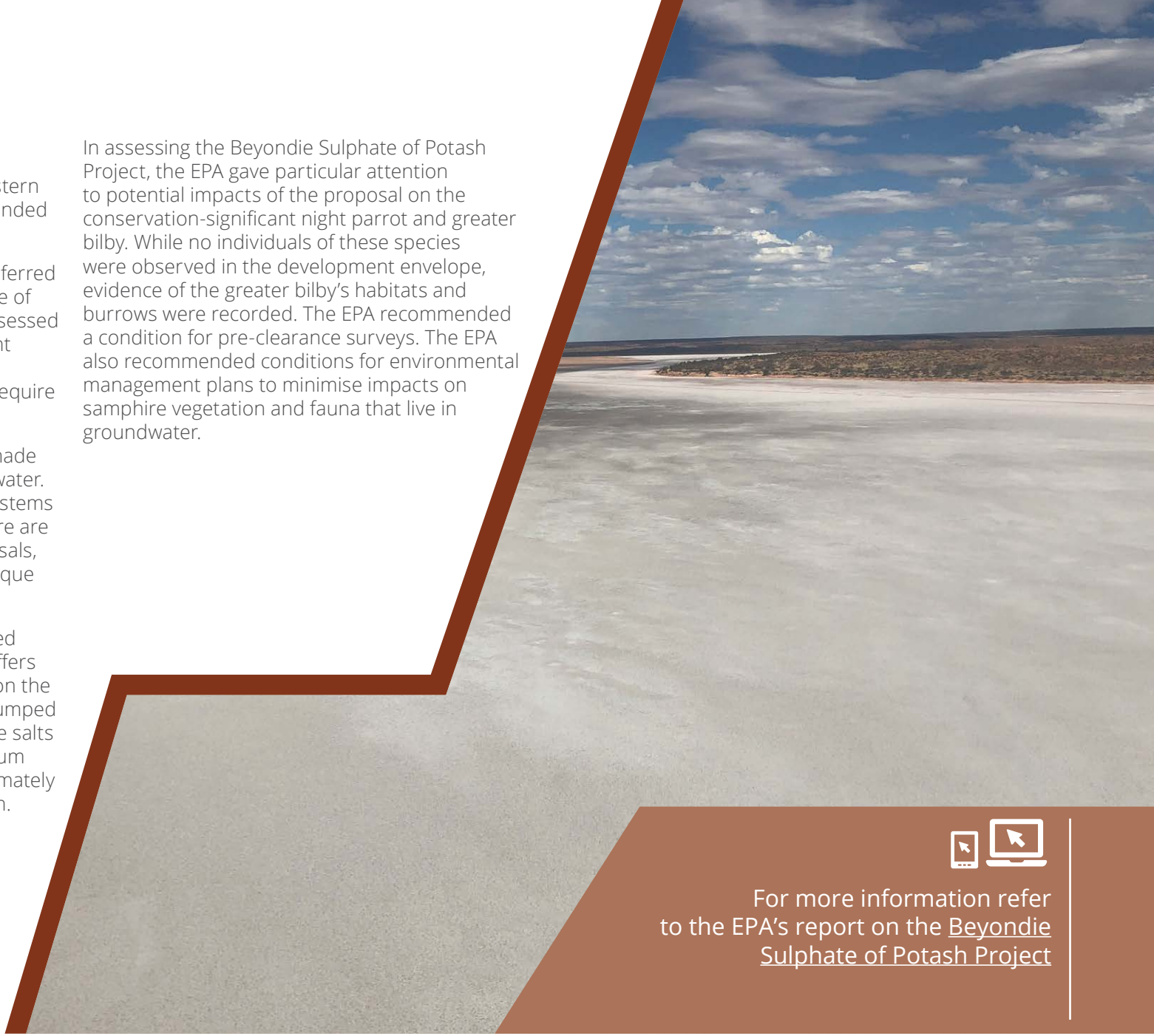
The Beyondie Sulphate of Potash Project is Western Australia's first potash proposal to be recommended for environmental approval by the EPA.

The project was one of five potash proposals referred to the EPA for assessment in recent years. Three of these proposals are currently being formally assessed (Lake Wells Potash Project, Lake Disappointment Potash Project and Mackay Sulphate of Potash Project). One proposal was determined to not require formal assessment.

Potash is a key ingredient for fertilisers and is made from hypersaline brine extracted from groundwater. The potash resource is found within salt lake systems in remote parts of Western Australia. While there are similarities between the different potash proposals, each will be considered and assessed on its unique location and environmental impact.

The Beyondie Sulphate of Potash Project, located 160 kilometres south-southeast of Newman, differs from a conventional mining operation. It relies on the extraction of hypersaline groundwater being pumped to ponds where the water is evaporated and the salts concentrated and purified. The proponent, Kalium Lakes Potash Pty Ltd, plans to produce approximately 100 kilotonnes per annum of sulphate of potash. The brines for the Beyondie Sulphate of Potash Project will be abstracted from below Ten Mile Lake and Sunshine Lake.

In assessing the Beyondie Sulphate of Potash Project, the EPA gave particular attention to potential impacts of the proposal on the conservation-significant night parrot and greater bilby. While no individuals of these species were observed in the development envelope, evidence of the greater bilby's habitats and burrows were recorded. The EPA recommended a condition for pre-clearance surveys. The EPA also recommended conditions for environmental management plans to minimise impacts on samphire vegetation and fauna that live in groundwater.



For more information refer to the EPA's report on the Beyondie Sulphate of Potash Project

Global interest in lithium

The EPA noted in its Annual Report 2017–18 the recent development of lithium processing plants and mines in Western Australia.

In May 2019, the EPA recommended environmental approval for the expansion of the Greenbushes Lithium Mine, 250 kilometres south of Perth, subject to certain conditions. During the EPA's environmental impact assessment, issues raised during the public review resulted in the proponent, Talison Lithium Australia Pty Ltd, undertaking further consultation with mining and environmental regulators.

The expansion required clearing of 350 hectares of native vegetation on mining tenements within State Forest 20, which has been subject to mining and logging. Talison reduced the size of the proposal's development envelope and, in preference to more clearing within the state forest, located proposed infrastructure in areas already disturbed.

The EPA recommended a condition for a conservation-significant fauna management plan to minimise impact on the endangered Carnaby's black cockatoo, forest red-tailed black cockatoo and Baudin's black cockatoo, the vulnerable chuditch, the endangered numbat, the critically endangered western ringtail possum and the state-listed wambenger brush-tailed phascogale.

To counterbalance the significant residual impact on these species from the loss of habitat as a result of the proposal, the EPA also recommended a condition for an offset strategy, requiring Talison to acquire land which has similar habitat values for these fauna species, and provide it to the state government to manage for conservation purposes, as well as provide funds for the management of this land. Talison also proposed an indirect offset to provide funds for research programs aimed at protecting the conservation significant terrestrial fauna likely to be impacted by the proposal.

Water collection and controls will be incorporated in new infrastructure to manage existing and potential impacts to water resources in the Blackwood Valley catchment. The EPA also recommended a condition to minimise visual impact from the proposal.

For more information refer to the EPA's report on Greenbushes Lithium Mine

Iron ore activity in the Pilbara

During 2018–19, the EPA considered the environmental impacts of various iron ore mining activities, including the West Angelas Iron Ore Project Deposits C, D and G and the Eliwana Iron Ore Mine Project.

The EPA recommended the expansion of the West Angelas iron ore mine including deposits C, D and G for environmental approval, subject to conditions.

During the EPA's assessment, roundtable discussions were held with the proponent, Robe River Mining Co Pty Ltd, the Department of Biodiversity, Conservation and Attractions, the Department of Water and Environmental Regulation and the EPA regarding the potential impact on Karijini National Park from the pumping of groundwater for the proposal. As a result, the EPA recommended an outcome-based condition to ensure there was no drawdown of groundwater associated with the proposal at the boundary of, or within, Karijini National Park.

To further protect the water resources of the national park from proposed surplus water discharge into Turee Creek East and minimise the impact on riparian vegetation, the EPA recommended an environmental management plan specifying further mitigation measures to minimise impacts on the national park, as well as measures to minimise impacts on ghost bats.

These measures include ensuring no disturbance to potential maternity ghost bat roosts, and minimising impacts to other known roosts. To offset the significant residual impact on ghost bats through the clearing of foraging and roosting habitat, the EPA recommended an offsets condition which requires the proponent to contribute to the Pilbara Environmental Offset Fund.

During 2018–19, the EPA recommended environmental approval for Fortescue Metals Group Limited's Eliwana Iron Ore Mine Project and Eliwana Railway Project.

The two projects were assessed separately. In April 2019, the EPA recommended the railway for environmental approval and in June 2019, the iron ore mine was recommended for environmental approval. The 120-kilometre railway will link the new mine site to the existing Fortescue rail network at Fortescue's Solomon hub.

Both Eliwana proposals were subject to conditions, including contributions to the Pilbara Environmental Offsets Fund to offset the significant residual impact from clearing of native vegetation (7900 hectares for the mine and 3690 hectares for the railway) and the impact on 40 hectares of *Themeda grasslands on cracking clays* (Threatened Ecological Community) by the railway.

For more information refer to the EPA's report on West Angelas Iron Ore Project Deposits C, D and G

Both proposals potentially impact on fauna habitat, including the nationally significant Pilbara leaf-nosed bat, ghost bat, northern quoll and Pilbara olive python. The EPA recommended that indirect impacts on fauna habitat could be managed through the implementation of appropriate fauna management plans.

The EPA also recommended conditions to address risks from the mining of iron ore, including management plans to minimise impacts on surface water and groundwater and further investigations of acid and metalliferous drainage risks to inform the required management plans.

Native title holders provided submissions during the public review periods of both proposals. These submissions provided the EPA with a clear understanding of the potential impacts on places of Aboriginal cultural significance, as well as impacts on cultural heritage including the loss of access to lands where cultural activities are carried out. Additional consultation between the proponent and the traditional owners, made possible as a result of the EPA's public review process, resulted in a revised railway alignment to minimise direct and indirect impacts to cultural sites, including the Nharraminju Wuntu Rock Art precinct and the Kumpanha Dancing Grounds.

The EPA recommended conditions for both the mine and the railway projects to ensure that adequate ongoing consultation is conducted with traditional owners to ensure indirect impacts to cultural heritage are managed.

For more information refer to the EPA's report on the Eliwana Railway Project and the EPA's report on the Eliwana Iron Ore Mine

Outcome of appeals

During 2018–19, the Minister for Environment issued Ministerial Statements for 26 proposals that were assessed by the EPA. Of these 26 proposals, nine received appeals against the EPA's report and recommendations. As a result of these appeals, only two Ministerial Statements required a significant change to the conditions that were recommended by the EPA. For one proposal the Minister added a condition requiring the proponent to report annual greenhouse gas emissions. For the second proposal, the Minister expanded the proponent's condition on greenhouse gas reporting and included the area of cockatoo habitat in the recommended offsets condition.

Reviewing the outcomes of the appeals process allows for the EPA to continually improve the conditions it recommends to the Minister.

The EPA is pleased to report that the vast majority (96 per cent) of its recommended conditions did not require significant change by the Minister following the appeals process.

Strategic activities and advice

The EPA develops policies, guidelines, technical reports and strategic advice to avoid or manage environmental impacts and to protect the environment.

Addressing greenhouse gas emissions

The EPA provides independent environmental advice to the state government and has provided advice on greenhouse gas emission conditions on more than 40 proposals over the past two decades.

The EPA is updating its greenhouse gas assessment guidance used in environmental assessments to ensure it is current and reflects contemporary climate science, emissions trends, existing policies and regulation and the risks to the Western Australian environment.

The EPA is undertaking this process to ensure the greenhouse gas assessment guidance is clear, robust and can be practically addressed by proponents.

In March 2019, the EPA released new assessment guidance on how it would consider greenhouse gas emissions in its future assessments of development proposals. The release of the new guidance was met with diverse public reaction, with concerns raised by some companies with potential exposure to the requirement. The EPA acknowledged those concerns, and withdrew the guidance, pending further consultation.

In June 2019, the EPA opened a 12-week round of public consultation to help inform the development of its new greenhouse gas assessment guidance. The aim of this consultation was to ensure the greenhouse gas assessment guidance is well informed by both industry and community views. Public submissions were invited from 10 June 2019 and closed on 2 September 2019.

The EPA was particularly interested in receiving views and information in the following areas to improve its greenhouse gas assessment guidance:

- the information that should be required by the EPA for its environmental impact assessments
- how emissions associated with a proposal should be considered by the EPA
- the constraints on potential emission mitigation conditions the EPA should recognise
- any other advice related to the assessment of greenhouse gas emissions by the EPA that would further clarify or improve the guidelines.

The EPA will review all submissions and prepare new greenhouse gas assessment guidance for a further round of feedback by the EPA's Stakeholder Reference Group. The EPA will then consider feedback from the Stakeholder Reference Group in preparing its final greenhouse gas assessment guidance, which is intended to be released in early 2020.

During the development of the new guidelines, the EPA remains mindful of any outcomes on greenhouse gas regulation at state and federal levels, and that any changes to regulation will potentially influence the EPA's consideration of its assessment guidelines.

A new era for biodiversity data sharing

The EPA has long been enthusiastic about consolidating and making available the wealth of information that is provided by proponents during the environmental impact assessment process. To achieve this, the EPA has partnered with the state government and the Atlas of Living Australia to deliver the Index of Biodiversity Surveys for Assessments (IBSA), a project that captures vital biodiversity data and provides a platform to make it publicly available.

IBSA is a ground-breaking initiative that unlocks biodiversity data from land-based field surveys conducted as part of the environmental assessment process. About $32 million is spent each year collecting biodiversity data, and thanks to IBSA this information is now centralised and more readily available. Creating a register of this data means more efficiencies for the public and private sectors.

The EPA Chair sponsored the development of the IBSA program. The Western Australian Biodiversity Science Institute facilitated the initial concept development, and the IBSA data standards were developed in consultation with industry and environmental practitioners.

Since its launch in May 2018, almost 450 biodiversity surveys have been entered in the IBSA system–nearly 400 of these are in the public web portal and the remainder will be online when the associated assessments are completed. Surveys in IBSA have been supplied by more than 180 proponents from the mining, agriculture, land development and local government sectors.

The EPA is pleased to note that in almost half of all cases the proponent has shared reports and data under a Creative Commons licence, meaning that third parties are free to re-use the information.

The availability of information in IBSA will lead to more effective biodiversity surveys, reduced timeframes and an improved information base for environmental impact assessment. The EPA looks forward to supporting the ongoing development and improvement of the IBSA program.

IBSA is the first step in the journey towards better environmental data management in Western Australia. The EPA is working with state government, the Western Australian Biodiversity Science Institute and the Western Australian Marine Science Institution on other initiatives that will build on IBSA's success and stakeholder support.

How IBSA works

The EPA, the Department of Water and Environmental Regulation and the Department of Mines, Industry Regulation and Safety require proponents to submit biodiversity data and reports to IBSA during assessments. IBSA publishes metadata for every submission and provides a platform for proponents to share reports and raw datasets for re-use by others. The information in IBSA is available to anybody through a free web portal.

More information is available at the website of the Department of Water and Environmental Regulation

www.dwer.wa.gov.au/ibsa

Carnaby's cockatoo in focus

In May 2019, the EPA released a technical report, *Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region.*

The technical report:

- outlines the known threats to Carnaby's cockatoo in the Perth and Peel region
- evaluates the risks to the population
- identifies priorities for research to inform environmental assessment, management and monitoring.

The Perth and Peel region is experiencing rapid growth and the population is forecast to reach 3.5 million by 2050. The EPA is concerned about the cumulative impacts of a growing city, against a backdrop of historical clearing on Carnaby's cockatoo habitat. The region represents just 3.7 per cent of the total mapped distribution of the species but is estimated to account for about 25 per cent of the greater Carnaby's cockatoo population. The population in the Perth and Peel region is estimated at 13 000 birds.

Carnaby's cockatoo is a seasonal visitor to the Swan Coastal Plain, which provides important foraging and roosting habitat during the non-breeding season. Carnaby's cockatoo's most important natural food resource on the Swan Coastal Plain is found in banksia woodland habitat, which has been reduced to one-third of its original extent in the metropolitan area since European settlement.

Over the last century, Carnaby's cockatoo has adapted to feeding on pines, established for forestry throughout the south-west. This new food resource is likely to have partially counterbalanced the loss of native banksia woodland foraging habitat in the region, to an unknown degree.

In the Perth and Peel region, the key threatening process to Carnaby's cockatoo is the clearing of foraging habitat, both native and pine. During environmental impact assessments, the habitat often intersects with land proposed for clearing and development. Actions that contribute to the loss of habitat in the region include urban and infrastructure development, plantation forestry and basic raw material extraction.

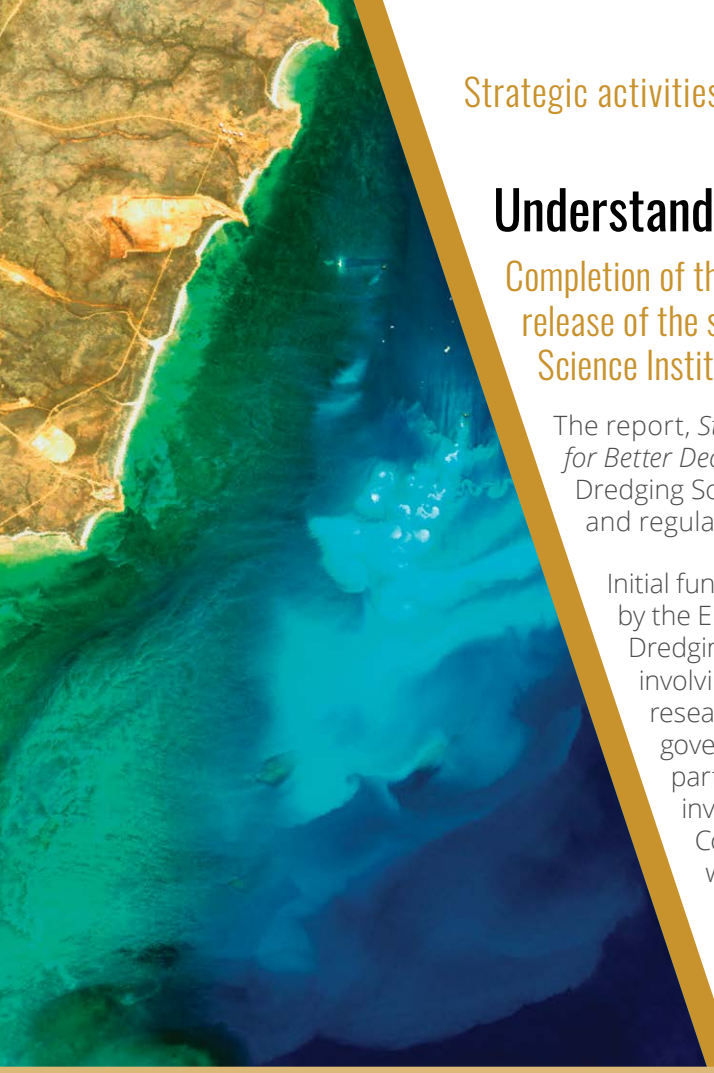
The technical report is intended to inform and guide developers and government on mitigation and protection measures for Carnaby's cockatoo when considering future proposals in the Perth and Peel region.

The decreasing availability of suitable land for offsets within the Perth and Peel region, because of the highly fragmented landscape, means that purchasing land as an offset is unlikely to be a sustainable long-term local strategy for black cockatoos.

Greater emphasis on rehabilitation and restoration of degraded areas in close proximity to the impacted habitat would enhance local environmental values and improve future habitat options for Carnaby's cockatoo.

To inform decision-making, research is required to address knowledge gaps in relation to the ecology of the species and likely impacts of the threatening processes on the Swan Coastal Plain, including cumulative impacts, the carrying capacity of remaining foraging habitat, clearing of the Gnangara-Pinjar pine plantation and the effectiveness of offsets.

For more information refer to the EPA's technical report on Carnaby's cockatoo



Understanding dredging through science

Completion of the Dredging Science Node has been marked by the release of the synthesis report by the Western Australian Marine Science Institution.

The report, *Strategic Integrated Marine Science: Dredging – New Knowledge for Better Decisions and Outcomes*, summarises the science outputs of the Dredging Science Node and their broader value to the science, industry and regulatory sectors.

Initial funding for the program was $9 million of offset funds endorsed by the EPA for three large dredging projects in the Pilbara. The Dredging Science Node was developed as a collaborative project involving government, industry and research institutions. The research program was planned and guided by the needs of government policy and regulation relating to dredging projects, particularly for environmental impact assessment. The node involved 114 scientists from 26 participating institutions. Co-contributions from these institutions brought the total worth of the node to $19 million.

The primary objective of the node was to improve capacity within government and the private sector to predict and manage the impacts of dredging in the tropical waters of Western Australia.

The node was highly successful, largely as a result of the collaboration between industry, government and the research institutions, and resulted in 45 published scientific reports and 60 articles published in scientific journals. The scientific findings have also been presented to relevant stakeholders and the community through two large symposia.

Outputs of the Dredging Science Node include:

- identifying the key dredging pressure indicators for assessing impacts to marine biota
- determining the sensitivity of representative species from key benthic biological groups to dredging pressures
- identifying baseline information that should be collected to facilitate impact prediction
- providing best-practice guidance for modelling the pressure fields generated by dredging
- identifying critical windows of sensitivity for marine biological groups
- understanding the sensitivity of different life stages of key biological groups to dredging pressures.

Relevant findings of the node have already been incorporated into dredging projects in Western Australia, Queensland, the Northern Territory and internationally. The improved understanding of the environmental impacts of dredging is expected to increase confidence in impact predictions and reduce the monitoring and management burden on proponents. However, there are still knowledge gaps that could be addressed if opportunities arise.

The next step for the EPA is to review all the scientific findings, recommendations and implications for management that have come out of the node and incorporate them into practical technical guidance for proponents and regulators.

For more information on the Dredging Science Node refer to the Western Australian Marine Science Institution website

www.wamsi.org.au/dredging-science-node

Looking forward

Strategic Plan 2019–22

During 2018–19, the EPA started planning for its next strategic plan, in consultation with stakeholders. The *Strategic Plan 2019–22* was finalised in September 2019.

The mission statement for the *Strategic Plan 2019–22* is for the EPA to use best endeavours to protect the environment for present and future generations through the provision of sound, robust and transparent advice.

The four key strategies recognised in the *Strategic Plan 2019–22* are:

1. improving the assessment and management of cumulative impacts
2. being innovative in environmental information and digital environmental impact assessment
3. actively advising on the development of effective state environmental policies and plans
4. improving the soundness, robustness and transparency of advice through our assessments.

The EPA remains committed to its mandate to protect Western Australia's unique environment and to ensure public expectations around advice, transparency and rigour are met.

Moving towards digital assessments

Digital assessments use technology both in the process of undertaking environmental impact assessments and to facilitate the communication of outcomes.

This year the EPA has continued to work with the Western Australian Biodiversity Science Institute to develop a transparent and consolidated digital data collection system to better support the environmental impact assessment process. A number of factors have helped bring this opportunity to fruition – the availability of significantly more data, technology allowing better analysis of information, the value of biodiversity being recognised through its ecosystem services, proponents and regulators seeking efficiency improvements in the environmental approval process and the public desire for greater transparency and better environmental outcomes.

The EPA recognises the importance of biodiversity information and accurate data in assessing environmental change, and its importance to effective decision-making processes. The challenges are to:

- improve the efficiency for environmental assessments from project inception to final decision, for proponents and regulators
- improve the confidence of the regulator that they have made the correct decision at both the project level and at a landscape (cumulative impact) scale
- improve public trust in environmental impact assessment decisions through transparency and visibility of data and methods underpinning decisions
- provide assurance that commitments to ministerial conditions are proceeding as planned through continuous monitoring and assessment.

The EPA Chair is a member of the Biodiversity Data Sharing Advisory Committee. The committee is leading a cultural change in the way biodiversity data is collected, managed and used in Western Australia. In May 2019, the committee supported the establishment of a biodiversity information office that will continue to promote a culture of data sharing, mobilise biodiversity data from all available sources and make it available, and manage the survey data to provide context and meaning to the information.

As previously discussed, this year has seen the successful implementation of the Index of Biodiversity Surveys for Assessment (IBSA). The index captures and consolidates data collected by industry and has been acknowledged as world's best practice, positioning Western Australia as a leader in biodiversity data management policy.

Digital data and technologies will improve the current environmental assessment process by:

- providing the tools which help proponents check, prior to engagement with the regulator or at early stages in the regulatory process, whether they have considered appropriate factors and have sufficient data to allow assessment
- providing tools which allow proponents and regulators to determine the requirements to meet environmental assessment and needs to reduce collection of information not necessary or not aligned with the key environmental risks of a project
- having adequate baseline information to better set conditions, or avoiding delay of a project until certain additional studies are completed.

In January 2019, the EPA formed a working group to identify and evaluate the options necessary to deliver an environmental impact assessment process that capitalises on digital data. The members of the working group are:

- Dr Tom Hatton, Chair, Western Australian EPA
- Dr Paul Vogel, Chair, Northern Territory EPA
- Erica Smyth, Chair, National Offshore Petroleum Safety and Environmental Management Authority
- Nicole Lockwood, Chair, Westport
- Dr Chris Moran, Deputy Vice Chancellor Research, Curtin University.

The working group wants to understand how data science can improve our understanding of the cumulative environmental effects of an action on a region over time, and ensure these impacts can be clearly communicated to policy makers, regulators and the community. The working group has structured its work within two broad categories:

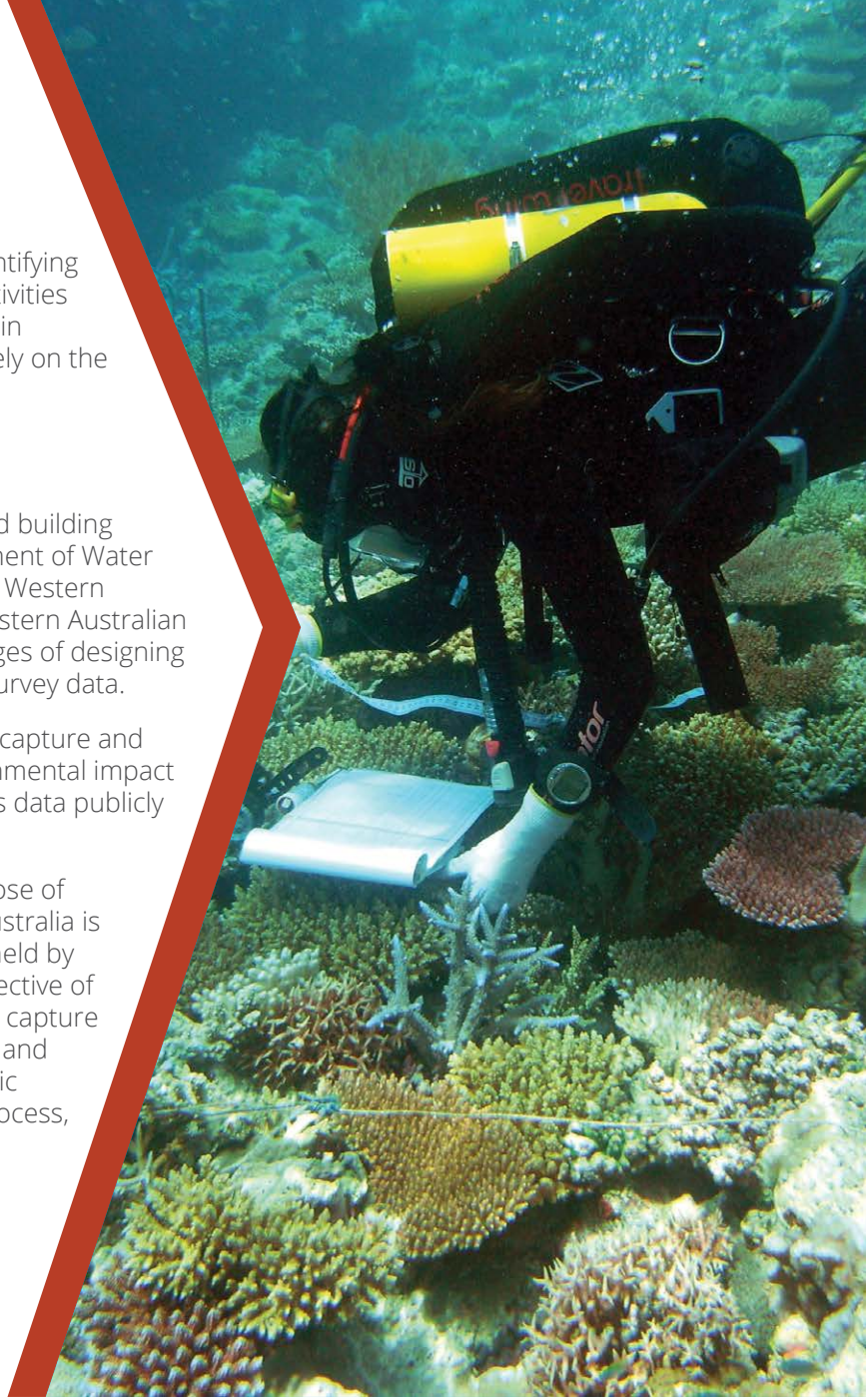
1. Streamlining current environmental impact assessments to provide more efficient information flows and tools to aid environmental assessment. This includes developing new, shared tools for assessment officers and proponents to reduce the administrative overhead associated with existing processes.
2. Next generation environmental assessment to develop digital analytic tools to assist environmental impact analysis, including identifying trends and predicting impacts of multiple activities in a region over time, to improve confidence in decisions made and to reduce the need to rely on the precautionary principle.

Marine data-sharing

As part of the concept of digital assessments, and building on the success of IBSA, the EPA and the Department of Water and Environmental Regulation, supported by the Western Australian Marine Science Institution and the Western Australian Biodiversity Science Institute, are in the early stages of designing and implementing a parallel system for marine survey data.

The Index of Marine Surveys for Assessment will capture and consolidate data used to support marine environmental impact assessments and provide a platform to make this data publicly available.

The average cost of marine surveys for the purpose of environmental impact assessment in Western Australia is $60 million per year. Most of this survey data is held by proponents and is not publicly available. The objective of the Index of Marine Surveys for Assessment is to capture data on benthic habitat mapping, baseline water and sediment quality, marine fauna and hydrodynamic modelling generated through the assessment process, and make it discoverable and accessible for all.



Environmental Protection Policy review

Environmental Protection Policies (EPPs) are one of the few statutory policy types in the EPA's guidelines and procedures framework, as they carry the force of law. This means that compliance with an EPP is mandatory.

The EPA may prepare a draft EPP if it considers it necessary or desirable for the protection of any portion of the environment, or for the prevention, control or abatement of pollution or environmental harm. The Minister for Environment is responsible for approving an EPP after it has been tabled in Parliament. The *Environmental Protection Act 1986* requires an EPP to be reviewed after seven years or at any time if requested by the Minister. There are currently four EPPs in force.

Peel Inlet – Harvey Estuary EPP

The Peel Inlet – Harvey Estuarine System is an internationally recognised Ramsar wetland, supporting important ecological values and the largest estuary in the south west. The *Environmental Protection (Peel Inlet – Harvey Estuary) Policy 1992* was developed in response to concerns about nutrient enrichment and excessive growth of algae causing degradation of the estuary and serious public nuisance.

More information on Environmental Protection Policies can be found at:

www.epa.wa.gov.au/environmental-protection-policies

Kwinana Atmospheric Wastes EPP

Instigated by significant pollution in nearby residential areas of Kwinana from the 1970s to the 1990s, the EPA developed the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* and *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* to effectively manage cumulative emissions of sulfur dioxide in the heavy industrial area.

The agreed emission limits can only be changed through a formal redetermination procedure. The procedure involves computer modelling to assess pollution dispersion from the large Kwinana industries and ensure compliance with the EPP standards. In 2018–19, the Department of Water and Environmental Regulation consulted with the Kwinana Industries Council on a new redetermination process to accommodate changing industry emissions. The Minister for Environment requested the department to proceed with the redetermination, which is expected to be completed in 2019–20.

Goldfields EPP

The *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy and Regulations 2003* were originally gazetted in 1988. The EPP seeks to limit and reduce the amount of sulfur dioxide in ambient air of residential areas of Kalgoorlie-Boulder, Kambalda, Coolgardie and the Kurrawang Aboriginal Reserve. The Goldfields EPP and associated regulations are key regulatory instruments used to set conditions in industry licences issued under Part V of the *Environmental Protection Act 1986.*

Western Swamp Tortoise Habitat EPP

The western swamp tortoise is one of the most threatened tortoises in the world and continental Australia's most endangered reptile. Western swamp tortoises have only been recorded on a narrow strip of the Swan Coastal Plain between Guildford and Bullsbook and there are only two remaining wild populations located north-east of Perth. There is a continued need to ensure that the western swamp tortoise habitat is protected, along with other measures being undertaken to ensure the survival of this species.

The *Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011* was originally gazetted in 2002 to protect habitat suitable for the long-term survival of wild populations of the western swamp tortoise. In June 2018, the Minister for Environment directed the EPA to defer the review of this EPP until 31 May 2020. This time allowed for the Department of Biodiversity, Conservation and Attractions to begin its review of the Western Swamp Tortoise Recovery Plan, providing updated science on the western swamp tortoise habitat needed for the EPA to conduct its review.

During 2019–20, the EPA will review any updated science as part of its commitment to reviewing the Western Swamp Tortoise Habitat EPP.

METRONET

In 2018–19, the EPA began its assessment of three METRONET projects in the metropolitan area.

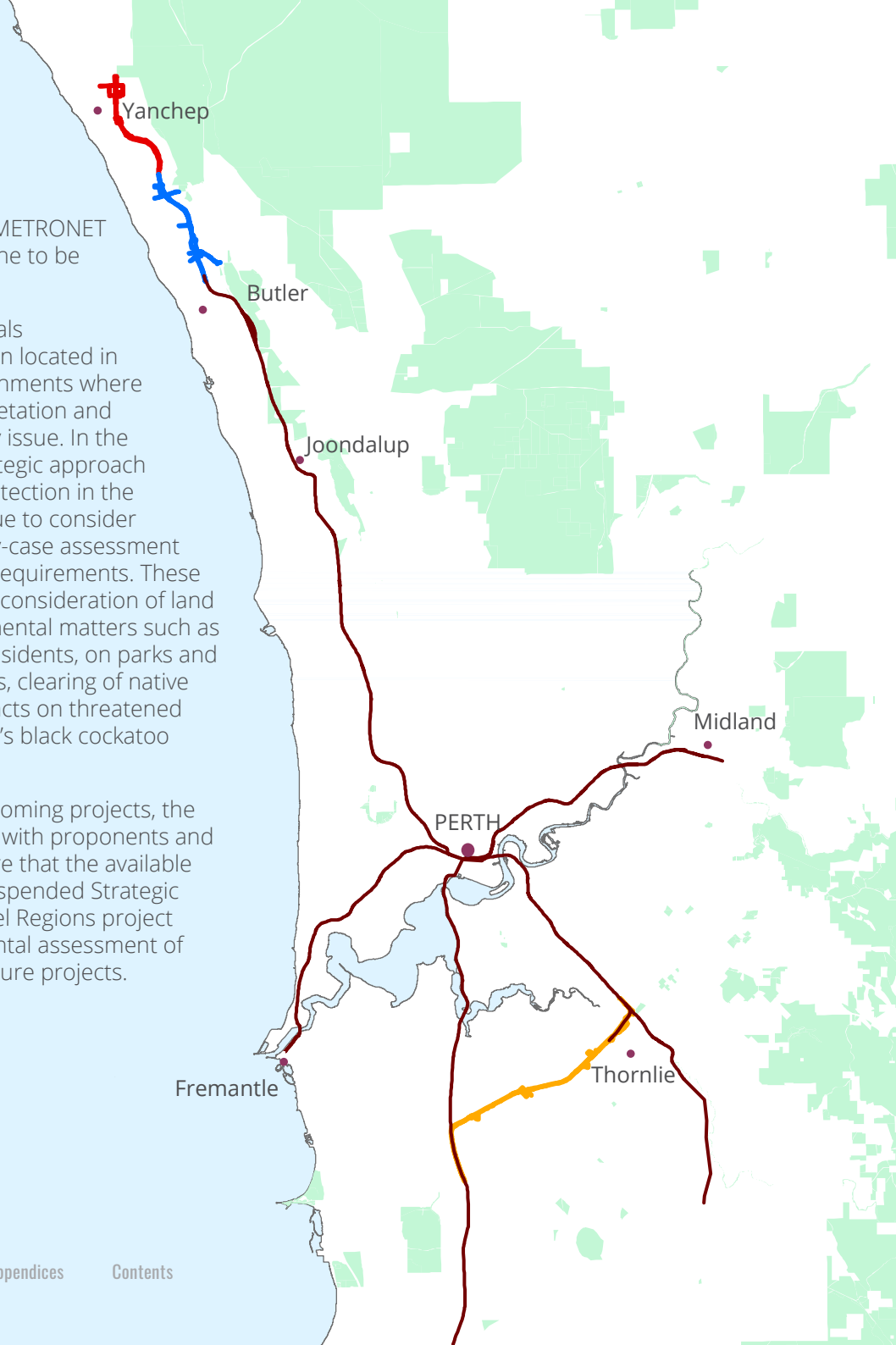
The Yanchep Rail Extension has two parts – part 1 is Butler to Eglinton and part 2 is Eglinton to Yanchep. The EPA completed its assessment and recommended approval for part 1 in May 2019. The EPA is currently assessing part 2 at the level of Public Environmental Review with a six-week public review period. In its assessment, the EPA will consider key environmental issues such as the railway fragmenting Bush Forever site Ningana Bushland, clearing of threatened and priority ecological communities, loss of threatened fauna habitat, disturbance to the Quindalup parabolic dune formation and potential impacts to subterranean fauna and impact to neighbouring areas from noise and vibrations.

The third METRONET project is the Thornlie to Cockburn Link proposal. This proposal is being assessed at the level of Referral Information with Additional Information. The additional information will be available for a four-week public review period. The EPA will consider impacts from the clearing of threatened and priority ecological communities, loss of Bush Forever, loss of threatened fauna and flora habitat, disturbance to a possibly contaminated site, water quality, loss and disturbance to wetlands and localised impacts to neighbouring residential areas from noise and vibration.

The EPA is expecting the fourth METRONET project – Morley to Ellenbrook Line to be referred in 2019–20.

Significant infrastructure proposals in the metropolitan area are often located in sensitive and constrained environments where the cumulative loss of native vegetation and threatened fauna habitat is a key issue. In the absence of a landscape and strategic approach to environment and heritage protection in the Perth region, the EPA will continue to consider these proposals through case-by-case assessment processes with individual offset requirements. These infrastructure proposals require consideration of land use planning as well as environmental matters such as impacts on current and future residents, on parks and recreation reserves and wetlands, clearing of native vegetation and consequent impacts on threatened ecological communities, Carnaby's black cockatoo habitat and other fauna habitats.

For these proposals and any upcoming projects, the EPA will continue to work closely with proponents and environmental agencies to ensure that the available information generated by the suspended Strategic Assessment of the Perth and Peel Regions project is used to inform the environmental assessment of METRONET and other infrastructure projects.



Developments on the Burrup Peninsula and Dampier Archipelago

The EPA is considering several industrial development proposals within Murujuga (the Burrup Peninsula and Dampier Archipelago) in the Pilbara region of Western Australia.

These proposals are mainly associated with the establishment of a 'Burrup Hub' for the oil and gas industry centred around the existing Karratha Gas Plant and Pluto Liquefied Natural Gas (LNG) Plant, to process natural gas from new offshore sources.

The EPA is also assessing the proposed Perdaman Urea Project within the Burrup Strategic Industrial Area.

There is a high level of public concern about industrial development on Murujuga, particularly regarding the potential for industrial air emissions to adversely impact culturally significant rock art. On 27 August 2018 the state government and the Murujuga Aboriginal Corporation agreed to progress a World Heritage nomination for Murujuga to see its cultural heritage values recognised at the highest international level.

The Department of Water and Environmental Regulation has partnered with the Murujuga Aboriginal Corporation to oversee the development and implementation of a world best practice rock art monitoring program to determine whether the art is being subjected to accelerated change. The development and implementation of the monitoring program will be undertaken in close consultation with a team of national and international experts in relevant disciplines.

The purpose of the Murujuga Rock Art monitoring program is to monitor, evaluate and report on changes and trends in the integrity of the rock art and to determine whether anthropogenic emissions are accelerating the natural weathering, alteration or degradation of the rock art. This will enable timely and appropriate management responses by state government, industry and other stakeholders to emerging issues and risks.

The EPA is aware that the state government is considering the establishment of a long-term, centralised and coordinated ambient air quality monitoring network on Murujuga and in the surrounding area, which will be coordinated by the Department of Water and Environmental Regulation. The Murujuga Ambient Air Quality Monitoring Network will expand the knowledge base to manage air quality in the region and result in more informed decision-making in relation to the management of the Murujuga airshed.

The EPA initiated a study to:

- quantify the cumulative air emissions from existing and proposed future industries and shipping operations and aggregated sources such as road vehicles, biogenics and wildfires within the Murujuga airshed
- determine the predicted ground level concentrations and deposition rates of various air pollutants due to emissions within the Murujuga airshed using different scenarios.

The information derived from the study will inform the EPA's assessment of industrial development proposals within the airshed. It will also inform the Murujuga Rock Art Monitoring Program and the establishment of the Murujuga Ambient Air Quality Monitoring Network.

Community spotlight

The EPA acknowledges the innovations and efforts of community groups and industry to protect the environment in Western Australia.

Scott Coastal Plain

The Scott Coastal Plain is highly valued for its biodiversity. The plain extends from Augusta in the west to Donnelly River in the east. The local community, led by the Denmark Environment Centre, wants the area recognised as a high-risk acid sulfate soils region. The community is concerned that future development may cause acid leachate and damage an important biodiverse region with threatened ecological communities. Their concern comes amid growing demands on the Scott Coastal Plain from agribusiness and potential mining operations. These demands could potentially place a risk to the environmental values of the region, and the catchment of the Scott River, Lake Jasper and the Gingilup Nature Reserve. The EPA commends the Denmark Environment Centre for their time and hard work in raising this important issue with government and for the information contained in their strategic assessment, submitted in June 2019.

The EPA is aware of the cumulative impact on the region from mining activity, and the risk of acid leachate and environmental damage to an important biodiverse region. The EPA notes the high value of the region and in particular the importance of the Scott River Ironstone Association (a threatened ecological community), major coastal wetlands, dune system and ecotones and flora and fauna, including waterbirds.

The EPA also notes the high risk of acid sulfate soil levels in the area, and the potential impact that development could have on water quality in coastal floodplains, wetlands, rivers and creeks.

Any future proposals referred to the EPA for assessment will be considered in the context of the high biodiversity values of the Scott Coastal Plain and the risk of environmental impact from exposure of acid sulfate soils. The state government has indicated support for protecting the conservation values of this region and has committed to reinstate the area of land previously excised from the D'Entrecasteaux National Park for the Jangardup mining proposal.

Golden Gecko Awards

Since 1992, the Golden Gecko Awards for Environmental Excellence have recognised environmental excellence demonstrated in the resources industry. The Golden Gecko Award recognises leading practice and innovation in environmental management and provides an opportunity to share experiences between government, industry and the community. The award forms part of the Department of Mines, Industry Regulation and Safety Resources Sector Awards for Excellence and highlights an applicant's commitment to environmental excellence and corporate social responsibility. Award-winning projects have raised the best practice standard and demonstrated the continual adoption of innovative techniques and skills across industry. Applicants continue to stand out and develop innovative and remarkable solutions to address modern challenges and regulatory requirements.

As the Golden Gecko Award approaches its 30th year, the EPA encourages companies and individuals to apply for this prestigious award and showcase their continued commitment to environmental excellence.

Engagement with stakeholders

Tom Hatton, EPA Chair, and staff from the Department of Water and Environmental Regulation with the Puutu Kunti Kurrama and Pinikura people.

Board meetings

The EPA met 11 times during 2018–19. At these meetings, the EPA met proponents of development projects and environmental experts to discuss assessments, received briefings from specialists on strategic environmental matters and continued updating governance procedures for the Board.

Meetings of the Board

	Tom Hatton	Robert Harvey	Elizabeth Carr	Glen McLeod	Jim Limerick	Jenny Pope
19 July 2018	✓	✓	✓	✓	✓	
16 August 2018	✓	✓	✓	✓	✓	
21 September 2018	✓		✓	✓	✓	
18 October 2018	✓	✓	✓		✓	
15 November 2018	✓	✓	✓	✓		✓
13 December 2018	✓	✓	✓	✓		✓
21 February 2019	✓	✓	✓	✓		✓
21 March 2019	✓	✓	✓	✓		✓
18 April 2019	✓	✓	✓	✓		✓
16 May 2019	✓	✓		✓		✓
20 June 2019	✓	✓	✓	✓		✓
Participation	11	10	10	10	4	7

Jim Limerick concluded his membership on the EPA Board in October 2018, and Jenny Pope began her membership with the EPA in November 2018.

Site visits

As part of the EPA's ongoing commitment to stakeholder engagement, the EPA conducted site visits, invited public submissions on assessments and regularly met with the Stakeholder Reference Group.

Site visits are an opportunity for the EPA to gain a first-hand appreciation of the environmental setting and constraints of proposals, to listen to community concerns and to discuss aspects of proposals in the field with subject matter experts. EPA site visits are generally undertaken following the public review of a proponent's environmental review document. At this stage, with all the available technical and public information to hand, the EPA is well informed on important elements of the proposal and key environmental issues.

Environmental Protection Authority site visits 2018–19

Date	Destination	EPA participants
6 August 2018	Mt Keith Satellite Project, 80 km north of Leinster – *BHP Billiton Nickel West*	Tom Hatton Glen McLeod Jim Limerick
21 September 2018	Burrup Peninsula rock art	Tom Hatton Elizabeth Carr Glen McLeod
24 October 2018	Eliwana Iron Ore Mine and Eliwana Railway Project, Pilbara Region – *Fortescue Metals Group Limited*	Tom Hatton
1 November 2018	Karratha Gas Plant and Pluto LNG Facility – *Woodside Energy*	Tom Hatton
15–16 March 2019	Mesa H Proposal and Mesa A Hub Revised Proposal – *Robe River Mining Co*	Robert Harvey
23 April 2019	St Ives Gold Mine – Beyond 2018 Operational Project (Revised Proposal) – *St Ives Gold Mining Company*	Tom Hatton
6 May 2019	Maddington Kenwick Strategic Employment Area land generally bounded by Brook, Boundary, Bickley and Victoria roads and Tonkin Highway, Kenwick – *City of Gosnells*	Tom Hatton

Stakeholder Reference Group

The EPA's Stakeholder Reference Group (SRG) invites representation from key external stakeholders and peak industry bodies. Members have the opportunity to provide input to the EPA on its guidelines, process and performance. During the year, the SRG met four times.

At 30 June 2019, core membership of the SRG comprised:

Conservation

- Conservation Council of WA
- Environmental Defender's Office
- World Wildlife Fund
- The Wilderness Society of WA
- Environment Institute of Australia and New Zealand
- Natural Resources Management WA

Resources industry

- Association of Mining and Exploration Companies
- Australian Petroleum Production and Exploration Association
- Chamber of Commerce and Industry of WA
- Chamber of Minerals and Energy of WA

Other industry

- Urban Development institute of Australia – WA Division
- Western Australian Local Government Association
- Environmental Consultants Association (WA)
- Pastoralists and Graziers Association of WA
- Western Australian Farmers Federation

Membership may also include individuals with relevant experience in environmental protection and related matters, who are invited at the request of the EPA Chair.

Consultation hub

Providing opportunities for public participation is important for environmental impact assessment and developing sound environmental policies, guidelines and procedures in Western Australia. The EPA publishes documents open for public comment online at consultation.epa.wa.gov.au. Members of the public are encouraged to submit their comments through this 'consultation hub'. The public and stakeholders can also subscribe on the hub to be notified of new items by email.

Number of comments received via the consultation hub

Type of consultation	Number	Number of comments*
Proposals under assessment	20	1177
7-day comment on referrals	41	5140
EPA guidance	1	22

* Responses received via email or the post have not been included

Appendices

Appendix 1: Referrals received and levels of assessment

Proposals under section 38 of the *Environmental Protection Act 1986*

Total proposals referred to the EPA under section 38	43
Determinations on level of assessment for proposals referred	
Assess – Referral Information	2
Assess – Referral Information – with public review	4
Environmental Review – no public review	1
Public Environmental Review (PER)	14
Not Assessed – managed under Part V Division 2 (Clearing)	2
Not Assessed – public advice given	7
Not Assessed – no advice given	2

Schemes and scheme amendments under section 48A of the *Environmental Protection Act 1986*

Total schemes referred to the EPA under section 48A	161
Determinations on level of assessment for schemes referred	
Scheme Assessed (Environmental Review)	6
Scheme incapable of being made environmentally acceptable	1
Not Assessed – public advice given	25
Not Assessed – no advice given	135

Appendix 2: Completed assessment reports

Completed assessment reports in 2018–19

Report number	Public Environmental Review	Proponent	Date approved
1642	Yangibana Rare Earths Project	Hastings Technology Metals Ltd	21 June 2019
1641	Eliwana Iron Ore Mine Project	Fortescue Metals Group Limited	19 June 2019
1640	Mesa A Hub Revised Proposal	Robe River Mining Co. Pty Ltd	29 May 2019
1636	West Angelas Iron Ore Project Deposits C, D and G – Revised Proposal	Robe River Mining Co. Pty Ltd	8 May 2019
1634	Yanchep Rail Extension: Part 1 – Butler to Eglinton	Public Transport Authority	1 May 2019
1633	Eliwana Railway Project	Fortescue Metals Group Limited	16 April 2019
1630	High Street Upgrade	Main Roads Western Australia	26 March 2019
1629	Ocean Reef Marina	Western Australia Land Authority (T/A LandCorp)	20 February 2019
1626	State Barrier Fence Esperance Extension	Department of Primary Industries and Regional Development	20 November 2018
1624	East Rockingham Waste to Energy Revised Proposal	New Energy Corporation Pty Ltd	17 October 2018
Report number	**Assessment on Referral Information**	**Proponent**	**Date approved**
1639	Pluto North West Shelf Interconnector Pipeline	DDG Operations Pty Ltd	29 May 2019
1635	Greenbushes Lithium Mine Expansion (with public review)	Talison Lithium Australia Pty Ltd	1 May 2019
1620	Paroo Station Lead Mine Hydrometallurgical Facility	Rosslyn Hill Mining Pty Ltd	26 July 2018
Report number	**Environmental Review (no public review)**	**Proponent**	**Date approved**
1631	Beyondie Sulphate of Potash Project	Kalium Lakes Potash Pty Ltd	3 April 2019
1625	Mt Keith Satellite Project	BHP Billiton Nickel West Pty Ltd	13 November 2018

Appendix 2: Completed assessment reports in 2018–19 (continued)

Report number	Change to conditions – section 46	Proponent	Date approved
1644	Special Residential Subdivision Part Murray Locations 109 and 1339 Pleasant Grove Mandurah – Ministerial Statement 297	Pleasant Grove Pty Ltd	26 June 2019
1638	Remediation of Midland Railway Workshop Site	Metropolitan Redevelopment Authority	14 May 2019
1637	Weld Range Iron Ore Project	Sinosteel Midwest Corporation Limited	2 May 2019
1632	Sorby Hills Silver Lead Zinc Project, under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 964	Sorby Management Pty Ltd	1 April 2019
1628	Armstrong Reserve, Dunsborough, Urban and Commercial Development – Inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 926	Ray Village Aged Care Services	18 December 2018
1627	Keysbrook Mineral Sands Mine – Inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 810	MZI Resources Ltd	12 December 2018
1623	Boodarie Waste to Energy and Materials Recovery Facility, Port Hedland; Resource Recovery Facility, Red Hill; East Rockingham Waste to Energy and Materials Recovery Facility; and Kwinana Waste to Energy Project – Inquiry under section 46 of the *Environmental Protection Act 1986*	New Energy Corporation, Eastern Metropolitan Regional Council and Kwinana WTE Project Co Pty Ltd	16 October 2018
1622	Roy Hill 1 Iron Ore Project, Port Infrastructure, Port Hedland – Inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 858	Roy Hill Infrastructure Pty Ltd	29 August 2018
1621	Point Grey Marina Proposal – Inquiry under section 46 of the *Environmental Protection Act 1986* to amend Ministerial Statement 906	Point Grey Development Company Pty Ltd	6 August 2018

Appendix 3: EPA guidelines and procedures published or revised

EPA guidelines and procedures published or revised in 2017–18

1. Procedures for environmental impact assessment
1a. Instructions and templates
Instructions for the Preparation of Data Packages for the Index of Biodiversity Surveys for Assessments (IBSA) (updated December 2018)
Instructions for the Referral of a Proposal to the Environmental Protection Authority under Section 38 of the Environmental Protection Act 1986 (updated July 2018)
2. Environmental considerations in environmental impact assessment
2a. Factor guidelines and technical guidance: Air
Environmental Factor Guideline – Air Quality (March 2019) – withdrawn pending further consultation. Refer to Environmental Factor Guideline – Air quality (December 2016)
Environmental Factor Guideline – Greenhouse Gas Emissions (March 2019) – withdrawn pending further consultation. Refer to Environmental Factor Guideline – Air quality (December 2016)
Technical Guidance – Mitigating Greenhouse Gas Emissions (March 2019) – withdrawn pending further consultation. Refer to Environmental Factor Guideline – Air Quality (December 2016)
3. Advice and reference material
Pilbara Coastal Water Quality Consultation Outcomes: Environmental Values and Environmental Quality Objectives – Updated Spatial Data and Maps (February 2019)
Technical Report: Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region (May 2019) – New document published under Section 16(j) of the *Environmental Protection Act 1986*

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