



Environmental Protection Authority

Annual Report 2017-18

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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 2018.



Dr Tom Hatton

Chairman, Environmental Protection Authority

21 September 2018

Contents

Letter to the Minister	ii
Message from the Chairman	iv

About the EPA

Our role	2
Our strategic plan	2
How we work	2
Environmental impact assessment	2
Collaboration	3
Strategic advice	3
Standards and criteria	3
Sharing information	3

2017–18 in review

Assessments	6
Development proposals	6
The growing demand for lithium	6
Mining on the Swan Coastal Plain	7
Irrigated agriculture in the north	7
Waste facilities	8
Potash	8
A different assessment approach	9
Green light for historic strategic proposal	10
Planning schemes and amendments to schemes	11
Shire of Gingin Local Planning Scheme 9 Amendment 18	11
Maddington Kenwick Strategic Employment Area	12

Strategic activities and advice

Perth and Peel @ 3.5 million	14
Easier, simpler guidelines and procedures	15

Features: Looking ahead

Mine-site rehabilitation	18
Unlocking the secrets of subterranean fauna	18
Informing regulation and management of cumulative impacts on native vegetation	18
Biodiversity data at our fingertips	19
Creating a greener urban environment	20
Local government rising to the challenge	20

The Authority

The Members	22
EPA meetings, site visits and stakeholder engagement	25
Site visits	26
Student support	27
Stakeholder Reference Group	28
Have your say	28
Environmental Non-Government Organisation Forum	29
Public reports and recommendations to the Minister	29

Appendices

Appendix 1: Completed assessment reports 2017–18	31
Appendix 2: EPA guidelines and procedures published or revised in 2017–18	32

Message from the Chairman



Dr Tom Hatton | Chairman, EPA

Western Australia is a remarkable State with a diverse and rich environment.

As the organisation tasked with providing strategic, transparent advice to the State Government on environmental matters, the Environmental Protection Authority (EPA) takes every possible care, in strict accordance with the *Environmental Protection Act 1986*, to protect the environment for present and future generations.

This report reflects the challenges and pressures facing the State's environment and those tasked with assessing significant proposals, as the population of Western Australia continues to increase and the economy grows.

We are now in the third and final year of the *EPA's Strategic Plan 2016-2019*, and we have made significant progress toward the objectives of that Plan: improving the soundness, transparency, robustness and strategic value of our advice. Much remains to be done.

IN THIS LAST YEAR OF OUR STRATEGY, WE ARE FOCUSED ON COMPLETING NEW PROCEDURAL GUIDELINES RELATED TO THE ASSESSMENT OF PLANNING SCHEMES, AND COMPLETING STRATEGIC GUIDANCE AND ADVICE RELATED TO GREENHOUSE GAS EMISSIONS, URBAN DEVELOPMENT, AND AIR QUALITY. WE HAVE NOW BEGUN DISCUSSIONS IN ADVANCE OF DEVELOPING OUR STRATEGIC PLAN 2019–2022.

As part of the EPA's commitment to provide relevant and informed advice we continue to consult with the community and stakeholders through our Stakeholder Reference Group (SRG). Early in 2018 we reviewed the membership of the SRG and moved to include broader representation from industry and conservation non-governmental organisations, in a bid to reinvigorate advice and direction from the group.

ABOUT THE EPA

The EPA welcomes new members to the group including the WA Farmers Federation, the Pastoralists and Graziers Association and Natural Resource Management WA.

They join 12 other organisations representing diverse interests across industry, the resource sector and conservation groups and we look forward to their input and advice in the year to come.

The EPA noted the suspension in the development of the Strategic Assessment of the Perth and Peel Regions, pending review.

The EPA remains firmly of the view that given the ongoing pressures that development places upon the metropolitan area, coupled with the historic loss of native vegetation and habitat in the region, there is a better chance of preserving more of what we have left through a strategic approach underpinned by excellent planning. The EPA is under no illusion as to the inherent complexity and expense in developing and realising such a plan with the Commonwealth and local stakeholders.

In the absence of such a plan, however, it is increasingly difficult for development proposals to sufficiently avoid, minimise or offset environmental impacts through our assessment process on a case-by-case basis. The EPA will continue to seek and contribute to the development of a workable and effective approach to strategic planning for the environmental protection of the metropolitan area.

IN 2017-18, PROPOSED EXPANSION OF THE IRON ORE SECTOR, NEW IRRIGATED AGRICULTURE PROJECTS IN THE STATE'S NORTH AND NEW MINES FOR LITHIUM, MINERAL SANDS AND RARE EARTHS CONTRIBUTED TO A 70 PER CENT INCREASE IN THE NUMBER OF PROJECTS REQUIRING ASSESSMENT BY THE EPA. THIRTY-ONE PROPOSALS REFERRED TO THE EPA IN 2017-18 WARRANTED ASSESSMENT. THIS WAS A SIGNIFICANT INCREASE FROM 18 ASSESSED PROPOSALS IN 2016-17.

Looking ahead, the EPA anticipates further demands for advice on State Government projects such as METRONET and other transport infrastructure proposals, as well as new large energy projects.

The government looks to the EPA for strategic advice of State significance. During the year the Minister for Environment asked the EPA to look into a set of complex matters and provide advice relating to environmental conditions surrounding specific projects.

We have begun reviewing conditions for: greenhouse gas emissions for the Wheatstone LNG Project; changing the Roe Highway extension proposal and rehabilitating the cleared corridor on the Beeliar Wetlands; carbon sequestration surrounding the Gorgon Gas proposal on Barrow Island; air quality in relation to protecting ancient rock art on the Burrup Peninsula; and ensuring residual waste is the primary product in waste to energy proposals.

Providing sound advice to government on these key issues will be a focus for the EPA going forward in 2018-19.

Our achievements this financial year would not have been possible without the hard work and dedication of staff.

In particular, I would like to acknowledge Dr Ray Masini, who was awarded the Public Service Medal during the year for his outstanding service to marine ecology and environmental protection in Western Australia. I commend Dr Masini for his hard work and contribution.

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

Chairman, Environmental Protection Authority



About the EPA



About the EPA

The Environmental Protection Authority (EPA), established under the *Environmental Protection Act 1986* (EP Act), must use its best endeavours to protect the environment, and to prevent, control and abate pollution and environmental harm.

Our role

The EPA is a five-member board appointed by the Governor of Western Australia to provide independent environmental advice to the State Government. Neither the Authority nor its Chairman is subject to the direction of the Minister.

Our strategic plan

The EPA is now entering the third year of its *Strategic Plan 2016–2019*. The plan sets out four strategic objectives:

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

Over the past year, the EPA has made further progress under the plan, including:

- Revising our policy suite, procedures and templates
- Reviewing assessment outcomes and using this to improve our approach by undertaking and communicating evaluation projects.
- Improving communication and access to EPA's advice, including review of the EPA website functions.

How we work

The EPA has statutory obligations under the *Environmental Protection Act 1986* (EP Act) to conduct environmental impact assessments (EIAs), initiate measures to protect the environment from environmental harm and pollution and to provide advice to the Minister on environmental matters generally. We also publish guidelines for managing environmental impacts.

Environmental impact assessment

One of the EPA's fundamental roles is to provide government with advice on the environmental acceptability of development proposals and statutory planning schemes. Development proposals include proposals for mining and industry as well as infrastructure such as ports, railways and pipelines. Planning schemes include statutory planning schemes and scheme amendments. The EPA also provides advice on matters of national environmental significance through bilateral agreements with the Commonwealth.

EFFECTIVE ENVIRONMENTAL IMPACT ASSESSMENT RELIES ON THE PROPONENT, PUBLIC INPUT AND ADVICE FROM RELEVANT EXPERTS TO OBTAIN SOUND INFORMATION TO DETERMINE THE ENVIRONMENTAL IMPACT OF A PROPOSAL OR SCHEME.



ABOUT THE EPA

Collaboration

The EPA is expanding our partnerships with State environmental experts to identify and facilitate good environmental outcomes. In 2017–18, the EPA collaborated with Western Australian Biodiversity Science Institute (WABSI) to develop and fund three new research projects.

Strategic advice

Several functions of the EPA relate to providing advice to the Minister for Environment, regarding environmental matters generally or specific proposals and schemes. For example, in August 2017, we published s16(e) advice to the Minister on consideration of potential health and amenity impacts of dust in determining the size of a buffer for urban development in the Mandogalup area.

In addition, the EP Act provides for the EPA to draft environmental protection policies for consideration by the Minister. Once approved by the Minister, these policies are laid before Parliament, and have the force of law. The government currently has four statutory environmental protection policies (EPPs) in force. Two EPPs relate to air quality (sulfur dioxide in the Goldfields and atmospheric wastes in Kwinana), one to protect the Peel Inlet – Harvey Estuary and one to preserve the habitats of the Western Swamp Tortoise, one of Australia's most endangered reptiles. For more details, visit our [WA Government policies](#) page on our website.

Standards and criteria

The EPA may establish and develop criteria for the assessment of the extent of environmental change, pollution and environmental harm or specify standards and criteria, and the methods of sampling and testing to be used for any purpose.

The EPA's current Technical Guidance documents sit within the Sea and Land Themes. For example, the EPA has six Technical Guidance documents under the Land Theme that provide standards for Flora and Vegetation, Terrestrial Fauna and Subterranean Fauna Factors.

Sharing information

Through written materials and our website, the EPA informs the public about our activities. The EPA may publish reports on environmental matters generally or detailed guidelines for the benefit of planners, builders, engineers or other persons to minimise the effect on the environment of their activities. The EPA intends to update its suite of environmental planning information during the next reporting period.



View our step-by-step assessment
process for proposals

[epa.wa.gov.au/step-step-through-proposal-
assessment-process](http://epa.wa.gov.au/step-step-through-proposal-assessment-process)



2017–18 in review



2017–18 in review

Assessments

THIS SECTION HIGHLIGHTS CURRENT ISSUES IN ENVIRONMENTAL IMPACT ASSESSMENT IN WESTERN AUSTRALIA.

Environmental Impact Assessment (EIA) is one of the EPA's fundamental roles which allows it to provide advice to Government on the environmental acceptability of development proposals and statutory planning schemes.

The EIA process:

- Provides structure and transparency
- Assists proponents to identify the environmental impacts of their development activities
- Allows mitigation methods to be put in place, to avoid and minimise potential changes to the environment
- Provides an opportunity for the public to participate in development decisions
- Provides decision-makers with assessment information; and recommendations about the possible environmental effects of a development activity so that they can make an informed decision about whether the activity can proceed.

Development proposals

In 2017–18, the EPA completed formal assessments of mines (Mining Area C – Southern Flank, Thunderbird and Sino), a lithium processing plant (Albemarle), infrastructure projects (Busselton – Margaret River Regional Airport and Onslow Marine Support Base) and irrigated agriculture projects (Pardoo, Shamrock and Carlton). Two waste-related projects (Sandy Ridge and Tyre Resources) were also evaluated.

The growing demand for lithium

Lithium is used in a variety of high-tech products and everyday objects, including batteries for electric cars, mobile phones and laptop computers, and the demand for lithium has quickly grown. The EPA is currently assessing downstream proposals (processing) and upstream proposals (mining) related to lithium in Western Australia.

In 2017–18 the EPA recommended approval of the Albemarle Lithium Plant, a Lithium Hydroxide Product manufacturing plant in an industrial area on the outskirts of Bunbury, subject to certain conditions. The conditions included the requirement for a flora and vegetation monitoring and management plan to minimise the potential impact on threatened flora and fauna, most notably Carnaby's black cockatoo.

High global demand and the development of more lithium processing facilities in WA has resulted in the EPA receiving many enquiries into the expansion of existing lithium mines and the development of new mines in the State. These include the referral of the Earl Grey Lithium project near Southern Cross, and Greenbushes Lithium Mine.



Read our media statement online

epa.wa.gov.au/media-statements/epa-recommends-approval-south-west-lithium-manufacturing-plant

2017–18 IN REVIEW

Mining on the Swan Coastal Plain

Proponents continue to seek development of basic raw materials on the Swan Coastal Plain. In assessing such proposals, the EPA needs to ensure that environmental values, especially threats to endangered black cockatoos, are avoided where possible and adequately mitigated if development proceeds. The EPA is currently assessing three sand mines, one hard rock quarry and one gravel mine on the Swan Coastal Plain.

Irrigated agriculture in the north

The EPA recommended conditions for three irrigated agriculture proposals in the Kimberley and Pilbara in 2017–18.

- Pardoo Irrigated Agriculture Project (Stage 3)
- Shamrock Station Irrigation Project
- Carlton Plain (Stage 1) Project.

Each of these projects had specific environmental reasons for requiring assessment. The Pardoo project (irrigated feed) is adjacent to the 80-Mile Beach Ramsar site. Shamrock Station (intensive cattle grazing) has potential to impact threatened fauna, including the endangered greater bilby, and groundwater-dependent ecosystems. Carlton Plains (grains, horticulture and cotton) was adjacent to the Ord River.

The EPA recommended operating conditions on all three proposals, which require an approved environmental management plan to ensure operations do not significantly impinge upon the surrounding environment. Each proposal was treated as unique, and consideration was given to their distinctive environmental values based on biodiversity, location, proximity to significant areas, and how well water would be managed.

The EPA found the environmental impacts could be managed through the conditions recommended by the EPA as well as the companies' environmental management plans.



2017–18 IN REVIEW

Waste facilities

The EPA's assessment of waste-related proposals increased in 2017–18. We are currently assessing a waste-to-energy facility and undertaking a section 46 (changes to conditions) review of approved waste-to-energy projects.

The EPA recommended approval of the Sandy Ridge Project, which is a dual kaolin (clay) mine and Class IV (secure landfill) and V (intractable landfill) facility in the Goldfields. The project will process waste from all of Australia, including waste from offshore oil and gas facilities. The waste will include, among other things, low level radioactive wastes and persistent organic pollutants. Strict conditions imposed include recording all waste accepted, independent annual auditing of the facility and preparing and implementing a leachate monitoring and management plan.

The EPA is currently assessing a Class III (putrescible landfill) facility and an upgrade to a liquid waste facility.

In 2017–18 the EPA also recommended approval of the Tyre Resource Recovery Facility to recycle used tyres in the general industry zone in Welshpool, south-east of Perth. Shredded tyres, which would otherwise be disposed of in landfill or storage, will be processed to produce char, steel wire, oil and process gas.

Potash

In agriculture and horticulture, potash is the common term for nutrient forms of the element potassium (K). It is a major ingredient in most commercial fertilisers. Large potash-bearing deposits are derived from the minerals in ancient seas that dried up millions of years ago.

Proposed projects will use trenches and bores to capture brine (salty water) from beneath the surface of salt lakes and pump the liquid to evaporation ponds. The baking sun then dries the liquid, leaving behind a solid mixed-potassium salt.

The EPA is seeing growth in the potash mining industry in WA. In 2018–19, the Authority will assess three potash projects – the Lake Disappointment Potash Project (320 km east of Newman), the Lake Wells Potash Project (160 km north-east of Laverton) and the Beyondie Sulphate of Potash Project (160 km south-east of Newman).



A different assessment approach

A strategic proposal is one that identifies a proposal or group of proposals that, if implemented in combination with each other, are likely to have a significant effect on the environment.

Taking a strategic approach to assessment allows the EPA to consider cumulative environmental impacts on a sub-regional and regional basis, rather than on a proposal-by-proposal basis. Proponents can refer a project that was identified within the strategic proposal and request that it be declared a derived proposal.

As each individual proposal is referred, the EPA will determine if there is any significant new information, or if there has been a significant change in the relevant environmental factors, since the strategic proposal was assessed.

Green light for historic strategic proposal

In 2017–2018 the EPA recommended approval of the BHP Billiton Iron Ore's Pilbara Strategic Proposal for mining operations in the Pilbara for the next 50 to 100 years.

The EPA carefully considered the potential impacts of the proposal — which covers new mines, expansions and infrastructure.

TAKING A HOLISTIC APPROACH THROUGH THIS STRATEGIC ASSESSMENT FACILITATED A LONGER TERM VIEW OF MINING ACTIVITIES IN THE REGION BY IDENTIFYING AND ASSESSING HOW IMPACTS TO THE ENVIRONMENT AT A LANDSCAPE SCALE WILL BE MANAGED—RATHER THAN DECIDING INDIVIDUAL PROPOSALS ON A CASE-BY-CASE BASIS.

Having assessed the strategic proposal, the EPA considered it should be able to more efficiently advise on whether related future proposals – called derived proposals – can be implemented without significant deleterious impacts on the environment.

The BHP proposal involves the potential clearing of up to 98 500 ha within a project area of around 7.6 million hectares.

The assessment focused on ensuring that key regional environmental values (Karijini National Park and the Fortescue Marsh) were protected while taking into account the cumulative impacts from future BHP operations as well as foreseeable third-party operations.

Due to the long timeframe involved, the EPA recommendations included a procedure for referring proposals that BHP wish to be declared a derived proposal. This includes a requirement to report on the ongoing progress of rehabilitation in the Pilbara, given the current difficulties in achieving consistent rehabilitation outcomes in the region.

EPA conditions for the initial approval can also be applied to future proposals.

These include a requirement for management plans to address impacts to flora and vegetation, fauna, surface water, groundwater, social surrounds, air quality and greenhouse gas emissions.

For derived proposals that are determined to have a significant residual impact, there is a requirement to offset impacts through contributions to the Pilbara Environmental Offsets Fund.



Read our assessment report and recommendations for the Pilbara Strategic Proposal

[epa.wa.gov.au/sites/default/files/EPA_Report/BHP_Strategic - EPA Report and Recommendations.pdf](http://epa.wa.gov.au/sites/default/files/EPA_Report/BHP_Strategic_-_EPA_Report_and_Recommendations.pdf)

Planning schemes and amendments to schemes

In 2017–18, 203 schemes and amendments to schemes were referred to the EPA for consideration of environmental impacts under section 48A of the EP Act. The EPA made 194 determinations during this time.

The 203 schemes and amendments to schemes accounted for 18 region scheme amendments, 10 local government schemes (complete schemes), 174 local government scheme amendments and one redevelopment scheme. The most notable change is that 10 complete local planning schemes were referred to the EPA in 2017–18 compared to three during 2016–17.

The EPA determined to not assess 162 schemes. Advice was provided for 31 schemes, an increase from 20 the previous year.

The EPA also determined that one local planning scheme was incapable of being made environmentally acceptable. The scheme amendment was withdrawn following consultation between the Ministers for the Environment and Planning.

Shire of Gingin Local Planning Scheme 9 Amendment 18

The EPA received a proposal to rezone 210 hectares (ha) from 'General Rural 30' to 'Future Development' zone, to facilitate the future development of urban, rural residential and mixed business precincts north west of the Gingin townsite.

The amendment area contained significant environmental values including the 'Gingin' vegetation complex (which is highly cleared and has only 11.6 per cent of its original extent remaining), Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community, Conservation Category Wetlands and Carnaby's Black Cockatoo habitat.

The EPA wrote to the Shire of Gingin setting out its concerns. The Shire responded by modifying the amendment to include scheme text to manage impacts to these values. However, even with the modifications, the EPA determined that the impacts of the scheme amendment were incapable of being made environmentally acceptable because of the significant impact on biodiversity and wetland values. The Minister for Environment and the Minister for Planning concurred with the EPA's determination.





2017–18 IN REVIEW

Maddington Kenwick Strategic Employment Area

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

The area is currently being rezoned and developed for future industrial purposes in stages.

In 2015 the WAPC referred three Metropolitan Region Scheme Amendments to the EPA. The EPA determined that the environmental issues did not warrant formal assessment but provided advice regarding Flora and Vegetation, and Inland Waters Environmental Quality Factors, specifically stating that the management and protection of the key environmental values could be managed through the preparation of future local planning scheme provisions and structure plans.

IN APRIL 2016 AND JANUARY 2017, THREE LOCAL PLANNING SCHEMES AMENDMENTS WERE REFERRED TO THE EPA BY THE CITY OF GOSNELLS FOR PRECINCTS 3A, 3B AND 2.

In July 2016, the EPA determined not to assess the northern area (Precinct 3A) because at the time there were no significant environmental values at risk. The EPA provided advice to the City recommending the inclusion of scheme provisions to manage potential environmental impacts, including the retention of cockatoo habitat, indirect impacts to adjacent wetlands and threatened ecological communities.

Since the 2016 EPA decision not to assess Precinct 3A, Forest Red-Tailed Black Cockatoos have made a large roost in a stand of introduced trees in the area. Community concern about the potential loss of Forest Red-Tailed Black Cockatoo habitat and the indirect impacts to the Greater Brixton Street Wetlands have increased since the scheme amendment was gazetted for industrial purposes by the Government.

In response, staff from DWER have met with the community, local government and the developers to consider ways to avoid or minimise impacts on the roost site and wetlands. The proposed development is under review by the Commonwealth Department of Environment and Energy under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), as well as under consideration for further assessment by the EPA.

Scheme amendments for Precincts 2 and 3B have been identified as having potential significant environmental values and the EPA sought additional information from the City of Gosnells to inform its determination. In August 2018, the EPA determined to formally assess these amendments. The City of Gosnells is currently obtaining information in relation to the proposed future industrial development's direct and indirect potential impacts on flora, fauna, vegetation, wetlands and water management.

Strategic activities and advice



Strategic activities and advice

THE EPA MAY PROVIDE STRATEGIC ADVICE TO THE MINISTER FOR ENVIRONMENT ON ENVIRONMENTAL MATTERS GENERALLY, AND ON ANY MATTER WHICH THE MINISTER MAY REFER TO IT FOR ADVICE.

Perth and Peel @ 3.5 million

The EPA recognises that improved environmental outcomes are often achieved at the strategic level rather than through individual assessments. In April 2018 the State Government suspended work on the Strategic Assessment of the Perth and Peel Regions (SAPPR), pending a critical review. Strategic assessments enable a landscape scale approach to environment and heritage protection that provides certainty in the long term. The EPA considers that strategic or holistic approaches lead to more efficient land use planning and better environmental outcomes. The EPA strongly supports the continuation of the SAPPR as a good opportunity for undertaking an assessment of cumulative impacts on State and Commonwealth environmental values in WA.

With the prior release by the WAPC of the final *Perth and Peel @ 3.5 million* documents in March 2018, the EPA expects referrals of scheme amendments and development proposals to increase significantly.

A number of these referrals will have potentially significant environmental impacts. However, without SAPPR to address cumulative impacts, the EPA must continue to assess impacts through individual assessment.

Environmental agencies have undertaken significant work to improve available information and to determine the current levels of cumulative impacts within the Perth and Peel regions. This information is expected to be used across government to inform various priority projects, including the transport blueprints METRONET and Westport. It will also help to inform the EPA's assessments.

Many of the recommendations in the EPA's interim strategic advice – *Perth and Peel @ 3.5 million: environmental impacts, risks and remedies* – have already been achieved through the final sub-regional planning frameworks. The EPA will continue to work closely with the WAPC to ensure the appropriate consideration of environmental values through the planning system.

STRATEGIC ACTIVITIES AND ADVICE

Easier, simpler guidelines and procedures

The EPA's new streamlined guidelines and procedures framework has performed well in its first year of operation. Not only has the framework ensured a more transparent decision-making process but also helped to build interest and support among stakeholders.

In 2017–18 the EPA reviewed the framework after the first year of operation to ensure continuous improvement. Stakeholder feedback noted the documents were clearer and easier to navigate and our website provided clear links to the objectives and principles of the EPA Act. They also found it improved transparency in the EPA's processes.

The intent of the review was to identify any issues that had arisen since the framework was released in December 2016, including any perceived gaps. We invited feedback from key stakeholders through the EPA's Stakeholder Reference Group. The EPA would like to thank all the respondents who provided valuable and considered feedback.

IT WAS GRATIFYING TO NOTE THAT STAKEHOLDERS ALSO VALUED THE IMPORTANCE OF EPA ADVICE AND GUIDANCE ON ENVIRONMENTAL MATTERS AND CONSIDERED THE EPA AS A LEADER IN ENVIRONMENTAL PROTECTION IN WA. THE EPA CONTINUES TO WORK CLOSELY WITH KEY STAKEHOLDERS TO ADDRESS SUBSTANTIVE ISSUES RAISED.

The review suggested significant possibilities to create more value for stakeholders, proponents and the public.

As a result, in April 2018 the EPA published updates to the *Environmental Impact Assessment (Part IV Divisions 1 and 2)* procedures manual, which is used primarily by proponent and consultants, and is working with stakeholders to address substantive issues raised. In June 2018, the EPA published its revised Environmental Factor Guideline – Landforms and a new Environmental Factor Guideline – Inland Waters. Both publications clearly communicate how the EPA considers environmental factors in the EIA process.

Further, the EPA has commenced the development of administrative procedures for assessing planning schemes under Part IV Division 3 of the EP Act. This is an increasingly important focus for the EPA due to the cumulative impacts of land use planning on the environment and will complete the final intended aspects from the 2016 review. Working with stakeholders (including the Department of Planning, Land and Heritage, Western Australian Local Government Association and the Urban Development Institute of Australia), the EPA is also developing contemporary guidance for environmental matters in land use planning.

The EPA continues to be concerned about emissions of greenhouse gases, which contribute to climate change. In its previous annual report, the EPA called for a review of the State Climate Policy to ensure its climate policy remains appropriate, effective and contemporary.

Into the future, the EPA will undertake discussions across government regarding appropriate guidance, roles and responsibilities for matters related to social surroundings, including amenity and Aboriginal heritage. The EPA notes that the *Aboriginal Heritage Act 1972* is currently under review.

In late 2018, the EPA intends to develop a policy manual to define the roles of the various policy documents and provide a consistent process for managing the EPA's policy framework.

The EPA is confident the new policy suite contributes to achieving the objectives of the EPA's *Strategic Plan 2016–2019*, specifically to increase public confidence in its processes by ensuring the soundness, robustness and transparency of its advice.



View our new guidelines and procedures on our website

epa.wa.gov.au/guidelines-and-procedures



Features: Looking ahead



Features: Looking ahead

Competing demands upon the environment are complex, subject to developments in technology and innovation in policy. This section highlights current and emerging issues and outcomes in environmental management of interest to the EPA and stakeholders.

In 2017–18 the EPA identified projects that would address knowledge gaps relevant to the Authority's strategic goals. A highlight for the year was procuring Department of Water and Environmental Regulation (DWER) funding for three important research projects:

- Mine-site rehabilitation
- Subterranean fauna
- Native vegetation clearing.

Mine-site rehabilitation

In 2017–18 DWER worked with the Western Australian Biodiversity Science Institute (WABSI) to develop a project to collate information on mine-site rehabilitation in WA.

The project will assist the EPA to provide informed and balanced advice based on a contemporary understanding of practicable measures to protect the environment, consistent with the EPA's *Strategic Plan 2016–2019*. It will also highlight knowledge gaps to guide future research.

Unlocking the secrets of subterranean fauna

Subterranean fauna are animals that have adapted to live underground, either in water or in caves and underground voids. It has been estimated that the total number of subterranean fauna species in the western half of Australia is around 4000, most of which are unnamed or yet to be recorded. Much of WA's diverse subterranean fauna coincides with two areas subject to mining – the Pilbara and Yilgarn. As such, these areas have become the major focus of subterranean fauna assessment.

The EPA and DWER have worked with WABSI, the resource and research sectors and government agencies to develop a program of research into subterranean fauna, mainly invertebrates that include crustaceans, insects (cockroaches and beetles), arachnids (spiders, pseudoscorpions), myriapods (millipedes), worms and gastropod snails.

Key areas are species identification, improved sampling and survey protocols, understanding of habitat requirements, resilience to disturbance and access to data. Outcomes will assist the EPA to provide sound advice on development proposals, reduce uncertainty for decision-makers and improve conservation outcomes.

Informing regulation and management of cumulative impacts on native vegetation

In last year's annual report, the EPA identified that an accurate and contemporary understanding of the extent of clearing was vital to assessing the significance of native vegetation, its management and protection.

Subsequently, DWER has collated a summary of datasets that are available to help assess the extent and condition of native vegetation. The project determined what datasets government and other organisations held and estimated their accuracy, currency and resolution.

The DWER also worked with WABSI during the year to review and report on the use of remote-sensing technology for monitoring vegetation change. Remote-sensing technology will be used increasingly to compare images and highlight areas where vegetation change has been detected.

The outcome of this investigation will provide a context for policy development and decision-making for monitoring native vegetation across the State.

Appropriate monitoring and mapping products will assist the government and the EPA specifically to more confidently predict the cumulative impacts of proposals on native vegetation at a regional and sub-regional scale. This is a key element of the EPA's Strategic Plan and will allow the EPA to recommend more strategic responses to protect the environment.

FEATURES: LOOKING AHEAD

Biodiversity data at our fingertips

BIODIVERSITY IS A NATURAL CAPITAL ASSET WITH IMMENSE ECONOMIC SIGNIFICANCE FOR WA. THE EPA RECOGNISES THE IMPORTANCE OF BIODIVERSITY INFORMATION AND ACCURATE DATA IN ASSESSING ENVIRONMENTAL CHANGE, AND ITS IMPORTANCE TO EFFECTIVE DECISION-MAKING PROCESSES AT ALL LEVELS.

In 2017–18 the EPA strongly supported a collaboration initiated by WABSI between the EPA, government and industry to capture high quality biodiversity data in a central accessible repository. The Chairman of the EPA sponsored the project, with implementation carried out by DWER.

The first major milestone of this initiative was the launch of the Index of Biodiversity Surveys for Assessments (IBSA) in May 2018 by DWER. The new index will capture and consolidate data contained in more than 500 biodiversity surveys that are conducted each year and will make the information publicly accessible.

Before IBSA, an estimated \$38 million was spent each year collecting biodiversity surveys to support environmental assessments and the information was only used once.

The benefits of IBSA include improving the availability of information for decision-makers and proponents, and reducing costs and delays associated with poor availability of biodiversity data, allowing government, industry and the community to get maximum value from existing data.

The portal will also support ongoing strategic planning, decision-making and management.

IBSA addresses a key recommendation in the Government's Service Priority Review – that is, to strengthen data sharing and improve information and communications technology performance – and aligns with the purpose of the Government's Open Data Policy.

The benefits of IBSA have been widely recognised by stakeholders. Proponents and environmental practitioners have engaged positively and expressed willingness to participate. This goodwill has already been leveraged into action, with industry volunteering significant amounts of historical surveys that DWER is currently uploading to IBSA.

IBSA is the first step towards a comprehensive management solution for survey data. The EPA, government and WABSI plan to significantly step up this work with the development of a centralised database to support biodiversity analytics.



Visit the Index of Biodiversity
Surveys for Assessments

biocollect.ala.org.au/ibsa



Dr. Tom Hatton, Hon. Dave Kelly MLA and Prof. Michael Poole at the launch of IBSA in May

FEATURES: LOOKING AHEAD

Creating a greener urban environment

The EPA considers human health and social surroundings as important environmental factors in the development of our urban areas. Changing climatic conditions, reduced rainfall, decreased groundwater availability and reduced tree canopy cover all contribute to the urban heat island effect, where the ambient temperature of many urban areas is significantly higher than surrounding rural or natural areas.

These environmental characteristics call for innovative approaches to urban greening. In the EPA's view, more emphasis should be placed on the protection and growth of the urban tree canopy, conservation of biodiversity and retention of existing trees on private property through the government's planning frameworks and policies.

'Greening' our cities and suburbs can keep the city cooler and reap additional environmental, social, health and economic benefits. Beyond the obvious benefit of reducing temperatures, greening strategies could improve biodiversity and air quality, create more liveable communities and soften our streets and public spaces.

The EPA has a key role in land use planning and development through its responsibility to consider the environmental impact of planning schemes and amendments under Part IV of the EP Act.

The EPA continues to support local governments and provide advice for the development of liveable metropolitan and regional urban centres.

Local government rising to the challenge

Many local governments in WA are actively taking steps to green their environments, including through the development and implementation of local biodiversity plans, urban forest strategies and provisions in local planning schemes requiring tree planting or retention.

The City of Stirling, for example, has amended its local planning scheme to require developers to provide at least one advanced tree for every 500 square metres of land (or part thereof), and protect that tree with a nine square metre planting zone to sustain its health and growth.

The City of Melville's Urban Forest Strategic Plan aims to double the number of juvenile street trees to 1200, and increasing that number to 1500 by 2019. It will also renew its aging trees, increase planting in targeted areas, and establish and maintain a database to ensure it has extensive and current knowledge of the location, profile and condition of its street trees.

IN 2016, THE CITY OF PERTH ADOPTED ITS URBAN FOREST PLAN, FOLLOWING A PERIOD OF PUBLIC CONSULTATION. UNDER THE PLAN IT AIMS TO PROMOTE SUSTAINABLE WATER MANAGEMENT, PROMOTE A BALANCE AND RESILIENCE IN TREE SPECIES COMPOSITION, IMPLEMENT A 'WHOLE OF FOREST' MANAGEMENT APPROACH, AND PROMOTE AWARENESS OF THE BENEFITS THE URBAN FOREST CAN PROVIDE. THE PLAN ALSO AIMS TO CREATE 20 HECTARES OF ADDITIONAL CANOPY COVER BY 2056.

The EPA encourages the adoption of greening strategies by urban local governments.

The Authority



THE MEMBERS



Dr Tom Hatton
Chairman

Dr Hatton was appointed to the Board of the EPA in September 2014 and began a five-year term as Chairman from 5 November 2015.

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 NSW, he joined the CSIRO as an environmental scientist, working on 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, 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 R&D.

In 1999 he 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 WA Marine Parks and Reserves Authority (2012–15) and chaired the 2011 Australian State of the Environment Committee. He is an adjunct professor at UWA and serves on their Oceans Institute Advisory Board, as well as the International Centre for Radio Astronomy Research Board. He also serves on the Board of the Western Australia Parks Foundation.

In 2017 Dr Hatton was made a Fellow of the Australian Academy of Technology and Engineering.



Mr Robert Harvey
Deputy Chairman

Mr Robert Harvey has degrees in engineering and a Masters in Business Administration from the University of Western Australia.

Mr Harvey began his career as an engineer in the then Water Authority, specialising in resource management, planning and policy. His last position in the authority was as Director Water Resources Planning. He was Executive Director of the Department of Justice from 1999 to 2003. At the Department of Justice, 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 of the Water Corporation, he convened a scientific panel to review the State's 50-year water plan (Water Forever). He is the Regional Director for the Winston Churchill Memorial Trust. He joined the Board of the EPA as Deputy Chairman in 2012 and was reappointed in 2015.

THE MEMBERS



Ms Elizabeth Carr, AM

Ms Carr's background incorporates both the private and public sectors. She has worked in senior executive positions for IBM and Macquarie Group and with senior levels of government in NSW, WA, PNG and the US.

Ms Carr is a full-time Non-Executive Director with a broad portfolio covering government, private and not-for-profit organisations in both WA and NSW. She chairs the South Metropolitan TAFE (WA), St Mary's Anglican Girls School (WA), St Catherine's Aged Care Services (NSW), Seton Villa Disabilities (NSW), the icare Foundation, and the Department of Family and Community Services Audit and Risk Committee (NSW). She is a Director of icare (NSW), Vice-Chair of the Kokoda Track Foundation and Vice-President of the Harvard Club of Australia; plus the audit and risk committee for Urban Growth Development Corporation (NSW).

Ms Carr has a Bachelor of Arts (Hons) from UWA and a Masters in Public Administration from Harvard University. She is a Fellow of the Australian Institute of Company Directors.

In the 2017 Queens Birthday Honours, she 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'.

Ms Carr's term began in October 2011 and she was reappointed to the Board in 2014.



Dr Jim Limerick

Dr Limerick has extensive experience in strategic policy and planning, and was awarded the Australian Public Service Medal in 2008.

He is currently a member of the advisory board to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). He was formerly a member of the Western Australian Planning Commission (WAPC) and the WA Technology and Industry Advisory Council, and Chair of the Fremantle Port Authority. Until 2008, he was Director General of the former Department of Industry and Resources.

Dr Limerick has a PhD and BSc. (Hons) in metallurgy from the University of NSW and a Graduate Diploma in Business from Curtin University. He is a graduate member of the Australian Institute of Company Directors.

He was appointed to the Board on 5 November 2015 for a three-year term.

THE MEMBERS



Mr Glen McLeod

Mr McLeod is an environmental and town planning lawyer of 40 years' 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 member of the Waste Authority and the Western Australia Law Society's Environment Town Planning and Local Government Committee. He is immediate past Chair of the International Bar Association's (IBA) Environmental, Health and Safety Committee. He is also a Council Member of the IBA's Section on Energy, Environment, Natural Resources and Infrastructure Law (SEERIL).

An Adjunct Professor at Murdoch University, he teaches units in environmental law and town planning law. He is a member of the Advisory Group to the Murdoch Dean of Law and 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.

His term on the Board began in October 2013 and he was reappointed in 2016.



































































The Authority

EPA meetings, site visits and stakeholder engagement

The EPA met 13 times during 2017–18. During the meetings, the EPA met proponents of development projects and environmental experts to discuss assessments, considered the development of strategic environmental policies and reviewed governance procedures for the Board. As part of our ongoing commitment to stakeholder engagement, the EPA also conducted site visits and forums, invited public submissions on assessments, and regularly met with our Stakeholder Reference Group.

Meetings of the Board

	Tom Hatton	Robert Harvey	Elizabeth Carr	Glen McLeod	Jim Limerick
20/7/17					
17/8/17					
21/9/17					
19/10/17					
16/11/17					
30/11/17					
14/12/17					
18/1/18					
15/2/18					
15/3/18					
19/4/18					
17/5/18					
21/6/18					
Participation	13	13	13	13	12

Site visits

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 2017–18

Date	Destination	EPA participants
24–25 July 2017 and 28 November 2017	Carlton Plain – Stage 1, irrigated agriculture proposal located between House Roof Hill and the Ord River, about 40 km north-west of Kununurra, Shire of Wyndham – East Kimberley	Tom Hatton
	Kimberley Agriculture Investment	
10 August 2017	Cooljarloo West Titanium Minerals Project, 170 km north of Perth, Cataby	Tom Hatton Robert Harvey Elizabeth Carr
	Tronox Limited	
4 December 2017	Busselton–Margaret River Regional Airport Expansion	Tom Hatton
	City of Busselton	
11 December 2017	Gorgon gas development, Barrow Island	Tom Hatton
	Chevron Australia Pty Ltd	
19 December 2017	Esperance Waste Management Facility, Shire of Esperance	Tom Hatton
	Shire of Esperance	
14 March 2018	Albemarle Kemerton Plant, 17 km north-east of Bunbury, lithium mining, processing and waste management in the south-west	Tom Hatton
	Albemarle Lithium Pty Ltd	
14–15 May 2018	Pardoo Irrigated Agriculture Project – Stage 3365 km south-west of Broome	Robert Harvey
	Pardoo Beef Corporation Pty Ltd	



Student support

Each year, a graduating Murdoch University student is presented with the EPA Prize in Conservation Biology, awarded for the best average score in core units of Conservation and Wildlife Biology.

In May 2018, the prize was awarded to Tim Robins, who graduated with a Bachelor of Science with a double major in Conservation and Wildlife Biology and Environmental Science.

Stakeholder Reference Group

The EPA established the Stakeholder Reference Group (SRG) in 2012 to assure representation of key external stakeholders and peak industry bodies in environmental matters. The SRG meets four times a year and provides input on matters of policy, process and performance. The machinery of government changes in 2018 provided an opportunity for us to review the membership of the SRG. As such, given communication channels between the EPA and government departments have become well established it has been determined Government agencies would no longer sit on the SRG.

Further, the EPA took the opportunity to expand non-government representation on the SRG to renew advice and direction. The new members represent the WA Farmers Federation, the Pastoralists and Graziers Association and Natural Resources Management WA. The EPA is looking forward to their participation and contribution to the group.

At 30 June 2018, 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
- WA Local Government Association
- Environmental Consultants Association (WA)
- Pastoralists and Graziers Association of WA
- Western Australian Farmers Federation

The membership may also include individuals invited at the request of the Chairman of the EPA who have relevant experience in environmental protection and related matters.

Have your say

Providing opportunities for public participation is important for EIAs and developing sound environmental protection policies in WA. 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.

Environmental Non-Government Organisation Forum

The EPA conducted an Environmental Non-Government Organisation (ENGO) Forum on 8 November 2017 at the State Library. Representatives of the Conservation Council of WA, WWF, the Environmental Defender's Office, the Urban Bushland Council of WA, the Wilderness Society and the Wildflower Society of WA were invited to attend.

The Forum was an opportunity for EPA members to meet with ENGO representatives and discuss topics of interest. Topics raised and discussed ranged from access to environmental information, EPA's guidelines and procedures, greenhouse gas emissions, urban clearing and fragmentation.

Public reports and recommendations to the Minister

The EPA assesses proposals under Section 38 and planning schemes and scheme amendments under Section 48A.

Referrals received and levels of assessment for 2017–18

Item	No.
Section 38 referrals received (total)	45
Assess – Referral Information	11
Assess – Environmental Review – no public review	4
Assess – Environmental Review – public review	16
Not assessed – public advice given	6
Not assessed – no advice given	3
Not assessed – managed under Part V Division 2 (Clearing)	4
Section 48A referrals received (total)	203
Scheme amendment not assessed – advice given	31
Scheme amendment not assessed – no advice given	162
Scheme incapable of being made environmentally acceptable	1
Assessment reports completed	19

Statistics on responses received

Type of consultation	No.	Responses
Proposals under assessment	9	166
7-day comment on new referrals	43	1281

Appendices



Appendix 1

Appendix 1: Completed assessment reports 2017–18

Report Number	Public Environmental Review	Proponent	Release date
1619	BHP Billiton Iron Ore - Pilbara Strategic Proposal	BHP Billiton Iron Ore Pty Ltd	9 July*
1616	Busselton Margaret River Regional Airport Expansion	City of Busselton	06 June 2018
1611	Sandy Ridge Project	Tellus Holdings Ltd	08 December 2017
1610	Mining Area C - Southern Flank	BHP Billiton Iron Ore Pty Ltd	08 December 2017
1606	Thunderbird Mineral Sands Project	Sheffield Resources	09 October 2017
1601	Tyre Resource Recovery Facility	Elan Energy Matrix Pty Ltd	31 July 2017
Report Number	Assessment on Referral Information	Proponent	Release date
1618	Albemarle Kemerton Plan	Albemarle Lithium Pty Ltd	15 June 2018
1617	Pardoo Irrigated Agriculture Project – Stage 3	Pardoo Beef Corporation Pty Ltd	13 June 2018
1615	Shamrock Station Irrigation Project	Argyle Cattle Company Pty Ltd	30 May 2018
1614	Carlton Plain - Stage 1	Kimberley Agricultural Investment Pty Ltd	21 March 2018
1613	Onslow Marine Support Base Stage 2 Capital Dredging	Onslow Marine Support Base Pty Ltd	05 February 2018
1602	Sino Iron Mine Continuation Proposal	Sino Iron Pty Ltd and Korean Steel Pty Ltd	07 August 2017
Report Number	Changes to Conditions – Section 46 (s46) Reports	Proponent	Release date
1612	Class II Landfill, Lot 7778 Diagram 209805, 1189 Wannamal Road South, Cullalla, Shire of Gingin - Ministerial Statement 796 & 975 (s46)	Fernview Environmental Pty Ltd	08 December 2017
1609	Cape Lambert to Emu Siding rail duplication and borrow pits in Millstream Chichester National Park (s46)	Robe River Mining Co Pty Ltd	22 November 2017
1608	Upgrade of Dust Management at Finucane Island and Nelson Point (s46) [2108]	BHP Billiton Iron Ore Pty Ltd	06 November 2017
1607	Bluewaters Power Station Phases I and II (s46) [1607]	Bluewaters Power 1 Pty Ltd and Bluewaters Power 2 Pty Ltd	20 October 2017
1605	Hamersley Agriculture Project (s46)	Hamersley Iron Pty Limited	02 October 2017
1604	Wagerup Alumina Refinery - production to a maximum capacity of 4.7 million tonnes per annum and associated bauxite mining proposal (s46)	Alcoa of Australia Limited	02 October 2017
1603	Expansion of the Monkey Mia Dolphin Resort (s46) [2128]	RAC Tourism Assets Pty Ltd	18 September 2017

* BHP Billiton Iron Ore - Pilbara Strategic Proposal was provided to the Minister for Environment on 27 June 2018.

Appendix 2

Appendix 2: EPA guidelines and procedures published or revised in 2017–18

1a. Procedures for environmental impact assessment (EIA)

Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (April 2018)

1b. Instructions and templates

Instructions for preparing data packages for the Index of Biodiversity Surveys for Assessments (IBSA)
(June 2018)

Instructions for preparing Impact Reconciliation Procedures and Impact Reconciliation Reports
(January 2018)

2a. Environmental considerations in EIA

Statement of Environmental Principles, Factors and Objectives (June 2018)

2b. Factor guidelines and technical guidance: Land

Environmental Factor Guideline – Landforms (June 2018)

This document replaces *Environmental Factor Guideline – Landforms*, published Dec. 2016

2c. Factor guidelines and technical guidance: Water

Environmental Factor Guideline – Inland Waters (June 2018)

This document replaces *Environmental Factor Guideline – Hydrological Processes* and
Environmental Factor Guideline – Inland Waters Environmental Quality

3. Advice and reference material

No changes to documents in 2017–18



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