



ENVIRONMENTAL PROTECTION AUTHORITY

Western Australia

**Annual Report
2008 – 2009**



Cover photographs:

top - Cockburn Sound provided by Donna Weston;
centre - Windarling Range, Andrew Brown; and
bottom - Perth from Reabold Hill, Denis Glennon.

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Environmental Protection Authority

WESTERN AUSTRALIA

ANNUAL REPORT

2008 • 2009

TRANSMITTAL TO THE MINISTER

MINISTER FOR ENVIRONMENT

In accordance with s21 of the *Environmental Protection Act 1986*, I submit the EPA's Annual Report for the year ended 30 June 2009.

It is with pleasure that, on behalf of the EPA, I advise that for the reporting period to 30 June 2009, the EPA has conducted its functions such that it has met its objectives outlined in s15 of the *Environmental Protection Act 1986*. This has been achieved with the assistance of the services and facilities of the Department of Environment and Conservation.

A handwritten signature in blue ink, appearing to read 'P. Vogel', is written over a horizontal line.

Dr Paul Vogel
CHAIRMAN

4 September 2009

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CHAIRMAN'S OVERVIEW

As a result of both the global economic crisis and a change in government since our last report, it has been a lively and challenging year for the EPA and the competent staff who support it.

While the economic downturn has resulted in fewer referrals of proposals to the EPA in 2008/09, it has not resulted in any significant decrease in formal environmental impact assessments (EIA).

Importantly, the EPA's reform of EIA is gathering momentum and is consistent with the new government's policy objective to streamline development approvals processes. The EPA is represented on all major across-government groups dealing with these reforms.



*EPA Chairman
Dr Paul Vogel*

For its part, the EPA has identified three EIA reform priorities:

1. finalisation of new Administrative Procedures to reflect a reduction in the levels of assessment from 5 to 2
2. development of outcome-based conditions; and,
3. completion of the trials of risk-based approaches to EIA for the Chevron Wheatstone and API iron ore proposals

There are also three matters worthy of note that relate to the reform of EIA. The first is the structure and governance of the EPA. In its review report released in March 2009, the EPA recommended that the EPA should have management control of its staff and resources. The government is giving that matter serious consideration and recognises the importance of both the independence of the EIA process and the environmental policy advisory role of the EPA.

Secondly, the EPA's Stakeholder Reference Group, which played an important role in the review of EIA, will continue in an ongoing role, not just in the implementation of the reforms, but also providing advice to the EPA about new policy directions for important environmental issues and performance of the EPA more generally.

Finally, one of the EIA review's Terms of Reference involving the more effective use of environmental assessment information by companies, communities and governments for planning and decision-making was deferred. As a result, the Minister for Environment has established the *Sharing Environmental Assessment Knowledge* Taskforce, chaired by the Chairman of the EPA, to advise her of how this matter might be addressed. An interim report has been prepared with the final report expected in November 2009.

The EPA sees all significant development proposals across the State. Therefore, it is in a unique position to form a view about cumulative impacts and other strategic issues at a regional level and it advises the government, informally, or formally through s16e of the

Environmental Protection Act 1986, about environmental issues that require attention at a whole-of-government level. This important function will continue

Some of the strategic environmental issues that the EIA process identified included; the value of strategic environmental assessments and advice (Kimberley LNG precinct, Preston Industrial Precinct), the need for policy in advance of development (mid-west iron ore projects), integrated and coordinated approaches to air pollution (Port Hedland Dust Management Taskforce) and more recently, cumulative environmental impacts of Pilbara iron ore mine dewatering. More detail on some of these proposals is provided in the body of this year's Annual Report.

Other important themes (some of which are recurring) that arose via the assessment process and will be a focus for the EPA, are:

- continue to improve the efficiency of the EIA process and more feedback on the effectiveness of EIA;
- environmental offsets generally and more specifically as they are applied through the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*;
- the need for, and value of, strategic and inclusive approaches to regional planning (such as the recently commenced regional planning exercises initiated by the Western Australian Planning Commission), especially given the rapid growth of significant LNG projects and the concomitant impacts on social and physical infrastructure;
- improved environmental policy and procedural guidance for proponents and EPA Service Unit staff;
- feedback on the effectiveness of EIA through targeted compliance audits of approved projects, initially focussing on mineral sands and dredging; and,
- the need for improved marketing and communication of what the EPA does, what EIA is and importantly, its value to the various stakeholders.

The EPA values its ongoing interaction with all stakeholder groups. In particular we acknowledge the contribution of staff in the consulting, industry, non-government and government sectors who attend EPA meetings and provide assistance with on-site visits.

I would also like to thank all the staff in the EPA Service Unit who support the EPA through their scientific, technical and policy advice.

Ministers David Templeman MLA and Donna Faragher MLC took a deep interest in issues addressed by the EPA and their support is appreciated.

And finally, thank you to my fellow EPA members for their sound advice and support of me as Chairman, with special thanks to my Deputy Chairman, Dr Andrea Hinwood who leaves the EPA in October 2009 after nearly 7 years of a most distinguished contribution to environmental protection in WA.



Dr Paul Vogel
CHAIRMAN

EPA Chairman 5 November 2007 to 4 November 2012

Dr Vogel has a PhD in chemistry from the University of Western Australia. Prior to his appointment, he was the Chief Executive and Chairman of the South Australian EPA from November 2002, with responsibilities for environmental regulation, development assessment and radiation protection.

From 2001 – 2002, Dr Vogel was Director of Environmental Policy with the WA Department of the Premier and Cabinet and Director of Environmental Systems with the then WA Department of Environmental Protection from 1995-2001.

Dr Vogel has worked across the three tiers of government, business and community and has extensive experience and knowledge in organisational and regulatory reform and strategic and collaborative approaches to sustainability, natural resources management, waste management, air and marine quality, site contamination and radiation protection.

Dr Vogel's experience includes: Chairman, EPA Board; Chairman South Australian Radiation Protection Committee; SA NRM Council; SA Major Projects Assessment Panel; Standing Committee of the Environment Protection and Heritage (Ministerial) Council (EPHC) and the National Environment Protection Council; Chair, Air Quality Working Group of the EPHC; Co-chair EPHC/Ministerial Council on Energy Working Group on Greenhouse and Energy Reporting; Board Director, Cooperative Research Centre - Contamination Assessment and Remediation of the Environment.

Prior to his environmental management roles in WA and SA, Dr Vogel held various senior management roles across the WA public sector and commenced his public sector career as a research scientist with the WA Department of Agriculture.

MEMBERS

The EPA has five members: a full-time Chairman, a part-time Deputy Chairman and three part-time members. However, members work far in excess of their part-time appointments. A record of members' attendance at EPA meetings is provided in Appendix 12.



Dr Andrea Hinwood

Member from 7 May 2003 to 10 May 2005. Deputy Chairman 11 May 2005 until 30 October 2009.

Dr Hinwood is a senior lecturer in Environmental Management at Edith Cowan University and has a Masters in Applied Science from Royal Melbourne Institute of Technology, Victoria and a PhD in environmental epidemiology from Monash University, Victoria.

Dr Hinwood has worked in the environmental protection area for over twenty years and has a wide experience in investigation, monitoring and management. She has managed the areas of contaminated sites, chemicals management and emergency response for the Victorian EPA prior to managing air quality with the Department of Environmental Protection in Western Australia. Dr Hinwood's research interests are in the areas of exposure assessment, hazardous air pollutants, health and environmental impacts of chemicals in the environment.

Dr Hinwood has a breadth of national and international experience, participating in a range of Ministerial and National Environmental Protection Council (NEPC) working groups. She chaired one of the United Nations Environment Program (UNEP) Technical Options Committees on substances that deplete the ozone layer and was a member of the Technology and Economic Assessment Panel under the Montreal Protocol for five years.



Mr Denis Glennon

Member from 1 January 1998 until 30 June 2010

Mr. Glennon recently retired from the private sector following a lengthy career at board and management levels in the environmental management business in Australia.

He holds qualifications in Engineering, Psychology, Education and Risk Management and has a comprehensive knowledge of environmental management and pollution prevention systems, environmental engineering, sustainable industry development, and environmental management policy formulation.

He is the recipient of an Order of Australia (AO) for his "service to environmental protection through the management, control and treatment of industrial and hazardous wastes, and to the community".



Ms Joan Payne

Member from 31 March 2003 until 20 June 2013

Ms Payne, former President of the Waterbird Conservation Group, has developed expertise in a broad range of environmental issues through interaction with conservation and community groups as well as Government Departments (State and Federal) since 1976.

Ms Payne was an Executive Member of the Conservation Council of WA from 1988 to 2001 including holding the position of Vice President for a number of years.

Her membership, both past and present, of Government committees and working parties, includes:

- The Western Australian Water Resources Council;
- Water Planning and Policy Standing Committee;
- Darling Range Regional Park Community Consultative Committee;
- National Wetlands Advisory Committee;
- Department of Environmental Protection's System 6 Implementation Group;
- Water and Rivers Commission Stakeholders Council;
- Water and Rivers Commission State Water Reform Council;
- System 6 Update Technical Advisory Group;
- Department of Conservation and Land Management's Wetlands Coordinating Committee;
- National Consultative Committee on Kangaroos; and
- National Shorebird Conservation Taskforce.



Dr Chris Whitaker

Member 11 May 2007 to 10 May 2010

After his initial degree at Cambridge University, Chris Whitaker obtained his PhD in desert geomorphology at the Australian National University.

Following several years as a lecturer, in 1980 Professor Whitaker joined the South Australian public service, where he managed the Environmental Assessment Branch of the Department of Environment and Planning and headed the environmental assessment of the Roxby Downs project.

Dr Whitaker joined the Environmental Protection Authority in Western Australia in 1983. In September 1996 Dr Whitaker was later appointed Director General of Transport for Western Australia where his responsibilities included preparing Westrail Freight for privatisation.

From February 2000 until July 2003 Dr Whitaker was the Chief Executive and Managing Director of the Melbourne Port Corporation. He then moved to become Pro Vice-Chancellor (Business) of Royal Melbourne Institute of Technology in August 2003, and from August 2004 to April 2005 he was Vice-Chancellor and President of the University. He was also a Trustee of the Sustainable Melbourne Fund.

Dr Whitaker relocated to Western Australia in July 2007.

Dr Whitaker is a National Fellow of the Institute of Public Administration; and a Fellow of the Chartered Institute of Transport and Logistics and the Australian Institute of Management. Prior to entering the South Australian public service he was also a professional freelance musician.

MAJOR ENVIRONMENTAL ISSUES

The EPA has overarching responsibility for the provision of independent advice to Government on environmental matters, and the public expectation is that the EPA will assume a broad custodial, or guardianship role in relation to the protection of air, water, soil, flora, fauna and the maintenance of biodiversity. In fulfilling this role, the EPA provides advice of either a general or particular nature under s16 of the *Environmental Protection Act 1986* (EP Act), develops statutory (Environmental Protection Policies) and non- statutory

Government on the environmental acceptability of development.

In addition, the EPA retains close links with Government departments which have the responsibility for the management of natural resources.

Review of WA's Environmental Impact Assessment process

The Environmental Protection Authority completed its Review of the Environmental Impact Assessment (EIA) process in March 2009. The Review examined the quality and timeliness of the process and concluded that there are very clear opportunities to deliver better environmental protection and to improve

Table 1: Key EIA reforms

EIA Reforms	Benefits
Risk-based approach to EIA	Focus on the environmental risks and impacts that matter, and ensure greater consistency, rigour and transparency of decision-making.
Outcome-based conditions	Environmental conditions that make clear the environmental outcome being sought rather than prescribing the technical means for achieving it.
Parallel processing	Limit restrictions on other decision-making authorities to improve parallel processing across government.
Timelines	Set target timelines for key steps in the assessment process, supported by procedures to guide the use of 'stop-the-clock' and when and how issues should be escalated to senior management.
Level of Assessment	Reduce the current five levels of assessment to two (public review and no public review) to simplify the process.
Policy review	Revise the policy framework and review priority policies, in particular greenhouse gas, marine ecosystems and environmental offsets.
Management and resourcing	Develop new project management system, with improved project tracking, performance reporting and analysis.
Administrative procedures	Review and revise the current administrative procedures to clarify the process and increase certainty for proponents.
Strategic assessment	Increase the use of strategic assessments to expedite assessment for compatible proposals and improve environmental outcomes.
Business improvement	Increase the use of MoUs with other agencies to increase certainty and improve environmental outcomes.

(State Environmental Protection Policies) policy, and provides advice to

the efficiency and transparency of the EIA process.

The EPA consulted widely and the recommendations for reform were broadly supported by industry, environment and government organisations.

The reforms are focused on delivering sustainable development in Western Australia by introducing sensible reforms to the practices, processes, systems and policies of EIA.

The reforms are consistent with the State Government's commitment to reforming assessment and approval processes by reducing complexity and improving timelines without diluting the rigour of the process or the independence of the EPA.

The key reform areas and benefits are listed in Table 1 above.

Implementation of the reforms has commenced and a status report is regularly updated on the EPA's website.

The EPA also identified several issues relevant to all approvals, in particular the need for project management and tracking across all government approval processes, and improve access to environmental information used to support approval processes.

The Minister for Environment has appointed a taskforce, chaired by EPA Chairman Dr Paul Vogel, to develop a model for improving the way in which we share environmental information used to support the assessment and approval processes. Access to quality environmental information is essential for good decision making and will improve project planning and management as well as reducing costs

and timelines. The Taskforce held its first meeting on 26 May 2009, and the Minister has asked for a final report by November 2009.

Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorus Management

The EPA finalised the Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorus Management (the Plan) in partnership with the Australian Government's Department of the Environment, Water, Heritage and the Arts under the Coastal Catchments Initiative to reduce pollution in coastal water quality hotspots.

The final plan was released by the EPA in November 2008.

Implementation of this Plan will be addressed by Government through the State NRM program.

One of the central projects endorsed by Government is the Fertiliser Action Plan (FAP). The FAP aims to change agricultural use of fertilisers in a defined area of the coastal plain extending from the Moore River south to the Scott River plain east of Augusta. As well, the FAP proposes a change to occur across the entire State for urban use fertilisers. Implementation of the FAP will focus on 'best practice' fertiliser management and soil amendment use to deliver beneficial outcomes for both the environment and industry.

Whicher Scarp

The Whicher Scarp is a small but distinctive landform covering only 21 000 hectares (ha) above the coastal plain, east of Busselton. It has been recognised in various reports for its striking and unusual flora and vegetation features, since the 1970's, including EPA Conservation Through Reserve Committee recommendations for System 6 and System 1.



EPA visit to the Whicher Scarp, June 2009 (Photo by K Freeman)

Since that time, several conservation areas related to these recommendations have been gazetted and some forest conservation areas identified through Forest Management Plans (Conservation Commission of WA, 2004). Despite these inclusions into the conservation estate the EPA notes that currently only 3.4% of the Whicher Scarp is protected in formal conservation reserves.

A recent comprehensive floristic survey of the Whicher Scarp (Keighery *et al*, 2008) has further expanded, defined and highlighted the areas of outstanding conservation values. The Whicher Scarp is now recognized as supporting more than 900 native plant species, with more

new species expected to be described, including a concentration of species endemic to the area and 60 declared rare or priority listed species, including nine listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The area also supports six unique vegetation complexes, of which two are highly restricted and three have less than 30 % of their original area remaining, restricted floristic communities recently listed as Priority Ecological Communities on the slopes and Busselton Ironstone Communities which are a Threatened Ecological Community at its interface with the Swan Coastal Plain.

The Whicher Scarp and its interface with the Swan Coastal Plain is subject to current exploration licences and mining leases for heavy mineral sands, which may significantly impact on the values of the Whicher Scarp. The area is also subject to sand and gravel mining and potential timber harvesting in the remaining area of native vegetation.

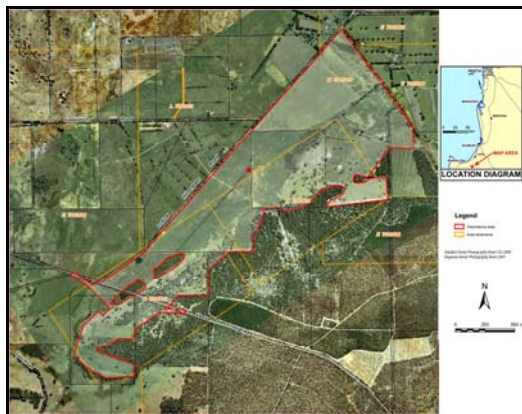
The EPA has initiated the development of an Environmental Protection Bulletin to highlight the significant natural values of the Whicher Scarp (released August 2009

<http://www.epa.wa.gov.au/template.asp?ID=66&area=Policies&Cat=Environmental+Protection+Bulletins>). The EPA will, as required under the *Environmental Protection Act 1986*, continue to consider proposed developments for this area on an individual basis. However, the EPA recognises the significance of the natural values of the Whicher Scarp across a range of biodiversity characteristics at the genetic, species and community levels, and the small overall extent of the Whicher Scarp

geographically. Where the EPA considers a proposal is likely to pose significant risk to the outstanding natural values of the Whicher Scarp, it will be formally assessed, or may be considered environmentally unacceptable.

Tutunup South Mineral Sands Project

The EPA reported on the proposal by Iluka Resources Pty Ltd to undertake the mining and processing of mineral sands at Tutunup South, 15 kilometres southeast of Busselton.



Regional location of Tutunup South mine site (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The Tutunup South Mineral Sands Project involved environmental issues which fall under both State and Commonwealth jurisdictions. The environmental impact assessment was carried out by the EPA under the State/Commonwealth bilateral agreement process with the Commonwealth Department of the Environment, Water, Heritage and the Arts.

The EPA provided its report and recommendation in EPA Report 1308

published on 5 January 2009. The EPA identified that the following key environmental factors were relevant to the proposal and required detailed evaluation:

- flora and vegetation;
- groundwater and surface water;
- closure and rehabilitation; and
- noise.

Within the flora and vegetation component of the proposal the EPA noted that there were both direct (8.2 hectares) and indirect (7.6 hectares) impacts to the Abba vegetation complex, of which 6% of pre-European extent is remaining. The EPA's target for reservation of vegetation complexes within the Greater Bunbury Region is 30%.

The EPA also considered that there was uncertainty in relation to Whicher Scarp floristic values that may be indirectly impacted by groundwater drawdown from the proposal.

The proponent offered a revised offset during the assessment of the proposal. The Department of Environment and Conservation advised that the offset met the requirements of EPA Guidance Statement 19 *Environmental Offsets – Biodiversity* (available at <http://www.epa.wa.gov.au/template.asp?ID=14&area=EIA&Cat=Guidance+State+ments>). The offset area exceeds the direct and indirect impact of the proposal by a ratio of more than 2:1. The EPA therefore considered that the offset provided a net environmental benefit.

Perth's Water Supplies into the Future

Environmental issues associated with Perth's reliance on its current main water supply source and development of key future sources were considered by the EPA during 2008-09.

Gnangara Mound

The EPA completed its review of environmental conditions applying to groundwater management of the Gnangara Mound by the Department of Water (DoW). This review commenced in 2000 and included a stage 1 report on conditions in 2004. The review was the subject of a final report by the EPA in May 2009 (EPA Report 1324). This followed a request from the Minister for the Environment in 2007 that in view of the changes in climate and land use which have occurred, the EPA review and report on:

- whether the water level criteria for any environmental monitoring site should be removed or varied as a result of changes to environmental values which have occurred at the site since the criteria were originally set; and
- whether the water level criteria for any environmental monitoring site should be removed or varied due to water levels at the site being predominantly affected by climate variation rather than abstraction.

In order to inform this review, the DoW prepared an environmental review document which addressed each criteria site of the current approval and reviewed the need for some administrative changes to the current approval. This document was made available for public

review and submissions for four weeks at the beginning of 2008.

During its consideration of the proposed changes to conditions, including environmental criteria, the EPA was cognisant of the Gnangara Sustainability Strategy initiated by the State Government. The Gnangara Sustainability Strategy is expected to provide the basis for a comprehensive review of the environmental conditions set on the mound, together with sustainable abstraction limits and an appropriate land use strategy to optimise recharge.

Following its review, the EPA agreed that seven of the nine criteria sites initially proposed for removal can be removed from the Implementation Statement as the proponent demonstrated that these sites have either lost their original environmental values or are predominantly affected by climate variation and land use, rather than abstraction. The EPA also recommended that a number of administrative changes be made to the Implementation Statement.

Perth Seawater Desalination Plant

Another existing water supply source that was the subject of EPA consideration was the outstanding section 46 review of conditions on the Perth Metropolitan Desalination Plant (PMDP) in Kwinana.

The EPA assessed the proposal to construct and expand the desalination plant in 2002 and 2004. However, several environmental matters were still to be resolved. In May 2005, the Minister for the Environment requested the EPA consider and provide advice on changes to the environmental conditions

relating to the PMDP. The Minister's request related to the discharge of hyper-saline effluent (brine) from the plant into Cockburn Sound and required the EPA to consider revising conditions so that they:

- are consistent with the requirements of the *State Environmental (Cockburn Sound) Policy 2005* (Cockburn Sound SEP);
- reinforce the importance of the Water Quality Management Plan (WQMP); and
- recommend a set of dissolved oxygen trigger levels to ensure that relevant 'standards' are not exceeded.

As part of its consideration of dissolved oxygen levels and the effect of the PMDP on levels in Cockburn Sound, the EPA initiated two separate peer reviews, with the support of the Water Corporation. The first of these was provided by Professor Barry Hart and Dr Tony Church in 2006, who undertook an independent review of the proposed dissolved oxygen criteria and management decision scheme for the plant. The second peer review was conducted in 2008 by Dr Robert Spiegel of New Zealand's National Institute of Water & Atmospheric Research Ltd (NIWA), to appraise the key findings of the technical reports produced for the Water Corporation by the Centre for Water Research (CWR). The main conclusion of the CWR was that dissolved oxygen trigger levels for management intervention are not required to protect overall water quality in Cockburn Sound.

Taking into consideration the advice provided in the peer reviews, and to ensure consistency with the objectives,

Environmental Quality Criteria (EQC) and standards set by the Cockburn Sound SEP, the EPA considered that a precautionary approach should be taken to the management of the wastewater discharges from the PMDP. The EPA considered that the plant should not contribute to a decline of dissolved oxygen below 60% saturation in the bottom waters of the Sound. The 60% saturation limit, defined under the Cockburn Sound SEP's environmental quality standards for high and moderate ecological protection areas, was supported by the peer reviews.

The EPA acknowledged that the DEC incorporated expert advice of the EPA Service Unit and the Hart and Church review to formulate the set of dissolved oxygen trigger levels when the first operational licence was issued in 2006. The EPA considers that the trigger levels of the industry licence to be the appropriate set of dissolved oxygen trigger levels to ensure that dissolved oxygen saturation levels in Cockburn Sound do not reach the EPA minimum acceptable level of 60% or lower.

The EPA considered that the legally enforceable industry licence issued by the DEC has and will continue to be the appropriate way to provide a regulatory regime for monitoring, management and reporting of dissolved oxygen levels.

Southern Seawater Desalination Plant

The next major source of water for the Perth Metropolitan Area will be the proposed 100 gegalitres (GL) per annum reverse osmosis seawater desalination plant at Binningup. The Southern Seawater Desalination Plant (SSDP) was the subject of EPA Report 1302 available at

<http://www.epa.wa.gov.au/template.asp?>

[ID=16&area=EIA&Cat=EPA+Reports+%28formerly+bulletins%29](#)).



Southern Seawater Desalination Plant Site, Lots 32 and 33, and Part Lot 8 (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

Key environmental factors considered by the EPA in its assessment were:

- (a) Water Quality and Marine Biota – impacts from construction and operation of the desalination plant;
- (b) Terrestrial Fauna – impacts from clearing of habitat;
- (c) Terrestrial Vegetation and Wetlands – impacts from clearing during infrastructure construction; and
- (d) Greenhouse Gas Emissions—proposed no net greenhouse gas emissions.

Modelling of the proposed operational discharge indicated that marine water quality would be protected by ensuring that those contaminants in the seawater discharge are minimised and that rapid mixing at the outfall mitigates the elevated salinity levels and slight changes to temperature and pH. The EPA concluded that Environmental Quality Objectives can be met subject to the proponent complying with

recommended conditions which provide for the identification of trigger levels, monitoring, reporting and contingency measures.

The EPA considered the effects on biota including marine mammals and benthic habitat relating to the construction of the intake and outfall structures should be limited in area and duration, and best practice design and management measures should minimise impacts.

Approximately 27 ha of native vegetation would be removed during construction associated with the SSDP. This includes locations containing four different Priority Ecological Communities, losses of a number of individuals of three different Priority flora species identified in the survey undertaken on behalf of the proponent, and also impacts to two regional ecological linkages. The EPA notes that the proponent has minimised impacts to native vegetation by purchasing Part Lot 8 (which does not contain regionally significant flora) for the construction of the majority of the desalination plant infrastructure and pipeline route selection. The Water Corporation has also committed to rehabilitating 14 ha of native vegetation and offsetting native vegetation loss with the rehabilitation of an additional 13 ha of native vegetation on the SSDP site. Rehabilitation of both ecological linkages will also occur.

Some wetlands would be impacted during construction of the SSDP. To meet EPA's environmental objectives, the Water Corporation has committed to offset impacts to, and loss of, conservation category wetlands in accordance with the EPA's Final Guidance Statement No.19: *Environmental Offsets*. (available at

<http://www.epa.wa.gov.au/template.asp?ID=14&area=EIA&Cat=Guidance+State+ments>).

The EPA recognised that the location and design of the project footprint has been chosen to retain as much habitat for native fauna as possible, and considers that the revegetation proposed by the Water Corporation would provide future habitat for native fauna including ecological linkages for the Western Ringtail Possum to ensure long-term genetic movement would be maintained.

The EPA also acknowledged the Water Corporation's commitment to use only renewable energy to operate the proposed SSDP and considers that all reasonable and practicable measures to minimise energy requirements have been made.

The EPA concluded that it is unlikely that the EPA's objectives would be compromised provided there is satisfactory implementation by the Water Corporation of the recommended conditions set out in Report 1302.

Environmental Impact Assessment of Coal-Fired Power Station Proposals

During 2008-2009 the EPA was involved in the assessment of two coal-fired power station proposals. These were Griffin Power 3 Pty Ltd's Bluewaters Power Station Expansion - Phase III and Phase IV in the Collie area and the Coolimba Power Pty Ltd's Coolimba Power Station Project near Eneabba. Both proposals are currently being assessed at the level of Public Environmental Review with an eight week public review period.

These two power station proposals would generate significant quantities of greenhouse gas emissions. It is proposed that Bluewaters Phases III & IV and the Coolimba Power Station be designed to be carbon capture land storage ready which will enable the proponents to incorporate and utilise appropriate technology to capture and store their carbon dioxide emissions when regulatory, technical and commercial conditions permit.

Lake Cronin



Lake Cronin (Photo by Mark Brundrett, March 2007)

In June 2009, the EPA provided its advice to the Minister for Environment under section 16(e) of the *Environmental Protection Act 1986* in relation to conservation values and a review of Nature Reserve proposals in the Lake Cronin Region Bulletin 1329 (available at

<http://www.epa.wa.gov.au/template.asp?ID=16&area=EIA&Cat=EPA+Reports+%28formerly+bulletins%29>).

This advice was prepared in response to a request from the Minister in 2004 for the EPA to review the current proposals for reserves in the Lake Cronin area, and recommend a conservation reserve (or

reserves) which adequately protect the nature conservation values of this area.

The Lake Cronin Region study area is centred on Lake Cronin, a semi-permanent freshwater lake, approximately 86 kilometres east of Hyden, near the intersection of Hyden-Norseman and Forrestania-Southern Cross Roads. The Lake Cronin Region occurs from the eastern boundary of the Wheatbelt and extends east of the vermin-proof fence into the south western area of the Goldfields.

The Lake Cronin Region possesses significant conservation values for wetland, flora and fauna habitats, including a high number of endemic flora species. However, the area also contains significant mineral wealth, and exploration and mining leases have claim to the majority of Unallocated Crown Land (UCL) within the Region. The potential for large scale clearing for mineral exploration and extraction is considered to be the most significant threat to conservation values in the Lake Cronin Region. Other possible environmental impacts that need to be addressed by management plans are the introduction of weeds and pathogens from vehicle movement and introduced materials, and hydrological changes that may occur from dewatering.

The conservation values of the wider region have recently been recognised in the Great Western Woodlands conservation strategy, which the Government has committed to support. The EPA's advice places the Lake Cronin Region into the wider context of the Great Western Woodlands region.

The EPA supported the implementation of the Great Western Woodlands

conservation strategy in Report 1329, as well as recommending implementation of the 1989 conservation recommendations for Lake Cronin. Negotiated tenures between the (then) Department of Conservation and Land Management and the Department of Mines proposed the creation of a small "A" Class Nature Reserve over the North Ironcap banded ironstone formation and a large area of "C" Class Nature Reserve on the boundary of the vermin-proof fence and two smaller areas to the east. Areas under mining or exploration leases are mostly proposed to be managed under Section 33 of the *Conservation and Land Management Act 1984*.



View from North Ironcap (Photo by Mark Brundrett, March 2007)

These conservation recommendations are now being progressed through a process coordinated by the DEC. In preparing this advice, the EPA was mindful that the areas surrounding Lake Cronin provide a contiguous representation of environments that have been now extensively cleared in the adjacent Wheatbelt Region.

At a wider scale there is potential for conservation management, at a whole-of-region level, of an environment that represents the transition from the higher

rainfall South West Australia to the more arid areas of Central Australia.

Dredging

As part of its broader review of EIA processes, the EPA commenced a review of its marine environmental policies. This was facilitated by a Marine Policy Settings Review Stakeholder Working Group, chaired by Dr Andrea Hinwood, EPA Deputy Chairman.

The Working Group membership comprised representatives from ports, resources sectors, environmental non-government organisations and Government. The group met on two occasions in July and August 2008 and was asked to provide feedback on the EPA's policies used for EIA of marine-based proposals.

In response to the report and recommendations arising from the Working Group's deliberations, the EPA has embarked on a number of new activities including a review of existing policies and preparation of new marine environmental policies aimed at enhancing clarity for the EIA of marine-based proposals. One of these new policy initiatives is the preparation of guidance for the assessment of dredging proposals.

The potential environmental impacts from large-scale dredging projects are significant and of concern to the EPA. Proposals for large-scale marine dredging are being considered by the EPA at sites in the tropical coastal seas in the north of the State through to sites in temperate areas of the south west. It is estimated that 120 - 170 million cubic metres of marine dredging has been

proposed in WA over coming years, mainly for port developments. Consequently, dredging has been identified as a significant environmental issue that warrants specific guidance to impart clarity and consistency to the prediction, assessment and management of environmental impacts. The intent of the guidance is to establish a framework within which proponents should couch their environmental impact predictions and to improve integration of those impact predictions into environmental approvals, should they be granted. Feedback has been sought from the Marine Policy Settings Review Stakeholder Working Group on a draft outline of the dredging guidance and preparation of a more comprehensive document will take that feedback into account. The EPA expects to consider a draft of the guidance in the fourth quarter of 2009, before releasing a document for targeted stakeholder review.

Memoranda of Understanding

The EPA and the Department of Mines and Petroleum (DMP) signed a Memorandum of Understanding (MoU) on 29 June 2009. The MoU will contribute to improved collaboration between the EPA and DMP on the processes used to refer environmentally significant mineral, petroleum and geothermal proposals to the EPA.

The MoU consolidates three existing MoUs into one single concise MoU, thereby reducing duplication and effort and eliminating confusion and inconsistency.

The MoU also recognises and encourages the development of

regulatory processes within DMP to deliver better environmental outcomes.

The EPA Chairman and the Director General of DMP have recognised that the MoU should be subject to ongoing refinement and improvement, and have agreed on a schedule of implementation actions. These actions include reviewing the referral criteria attached to the MoU, sharing environmental datasets, and developing a resources guide of policies and standards.

The MoU is a significant contribution in the pursuit of effective and efficient regulatory systems for mining and petroleum activities in Western Australia.

Climate change, population growth and planning

Between 2009 and 2031 the population of Western Australia (WA) is projected to grow by 40%, or 800 000 (*Western Australia Tomorrow*, WAPC 2005), and it is possible that the population of the Peel region will double in the next 50 years (*State of the Environment Report 2007*, EPA). The growth in population will place greater pressure on the environment through increased demand for land, energy, water, and more waste generation and pollution (*State of the Environment Report 2007*, EPA).

Over the coming decades, the impacts of human induced climate change are expected to increase. The *State of the Environment (SoE) Report 2007* identifies the changes to climate in the south west of WA as reduced rainfall (-20% by 2030), rising average temperatures in all seasons and rising sea levels.

The SoE report states that climate change in WA will accelerate loss of biodiversity. In WA's south west for example, climate change will reduce stream flows and groundwater recharge, and increase the frequency of bush fires. Climate change will also affect animal migration, breeding, flowering times, animal behaviour and adaptation to current conservation areas. The dual pressures of population growth and climate change place increasing pressure on the need for long term strategic land use planning. Land use planning will be an important tool in enabling flora and fauna to adapt to climate change while also accommodating the growth in population that will be occurring in WA at the same time.

As explained in the *Garnaut Climate Change Review* (2008) land use planning will be important in reducing human pressure on the environment and assisting the environment to adapt to climatic change.

“Natural resource management networks and programs have been established in Australia to conserve our natural environments. With climate change, additional efforts will be required to build the resilience of the Australian environment. This can be achieved by reducing existing non-climatic stressors such as land-use change, over allocation of water, and pollution (Howden et al. 2003). Similarly, expanding the existing system of land reservation and exploring new methods for engaging private landholders will facilitate species migration, encourage conservation and promote resilience.”

Professor Garnaut (2008) also states that:

“Now and in the future, natural resource managers will need to consider geographical shifts in habitats, the resulting new species assemblages, and the effect of these developments on, for example, the location and management of conservation reserves. Future natural resource management practice will need flexibility to allow managers to respond quickly to a dynamic environment and new information.”

Garnaut raises a number of points here that are not properly considered in strategic planning. Current planning and environmental protection is based on protecting adequate areas of pre-European vegetation assemblages. These areas are important for retaining biodiversity, however, the question needs to be asked, does the EPA's environmental impact assessment guidelines and policies in relation to biodiversity protection need to be amended to take account of future environmental changes and improve the environment's resilience and ability to adapt to climate change?

A 40% growth in WA's population combined with the impacts predicted as a result of climate change will have a dramatic impact on WA's natural environment, particularly in the South West. Improving the resilience of the environment and its ability to adapt to climatic changes by determining which land can be developed and which land should be allocated to the natural environment is a matter that should be considered in strategic environmental planning. The DEC and DPI are currently involved in a project called the

South West Regional Ecological Linkages Project which will identify linkages that can be included in land use planning strategies.

The majority of government and community attention has focused on the need to understand the impacts of climate change and to reduce greenhouse gas emissions. While there needs to be better understanding of climate change and strategies to reduce emissions, attention should also be directed towards options for aiding the community and environment to adapt to the impacts of climate change. This should include land use strategies and structure plans that recognise environmental changes that are likely to occur as a result of climate change. However, the impacts of climate change will be complex and more thought needs to be given to how the EPA and WAPC can work together to strategically review land use planning approaches to help the community and the environment adapt to the impacts of future climate change.

References

Environmental Protection Authority (2007) *State of the Environment Report*. Perth, WA.

Stern, Nicholas (2007). *The Economics of Climate Change*. Cambridge University Press. Cambridge, United Kingdom.

Western Australian Planning Commission (2005) *Western Australia Tomorrow*. Perth, WA.

Garnaut, Ross (2008). *Garnaut Climate Change Review*. Cambridge University Press. Port Melbourne, Victoria.

ENVIRONMENTAL PROTECTION BULLETINS

Environmental Protection Bulletins are brief explanations or clarifications of a particular issue, process or policy position prepared by the EPA

Appendix 11 gives the full list of Environmental Protection Bulletins and all are available at <http://www.epa.wa.gov.au/template.asp?ID=66&area=Policies&Cat=Environmental+Protection+Bulletins>

Number 2: Port Hedland Dust and Noise

In view of the noise and dust issues in Port Hedland, the EPA released, concurrently with its Report 1311 (January 2009) on Utah Point Berth Project (Stage B), Environmental Protection Bulletin No 2, Port Hedland Dust and Noise.

Dust and noise levels in the Port Hedland townsite have historically been above currently accepted recommended levels, and still are. This is something that has been known for some time and has led to some coordinated attempts by the state and local governments and industry to plan and act for long-term improvements to air quality and noise levels.

However, in the EPA's opinion this has not delivered integrated land use planning and management outcomes that will ensure acceptable air quality and noise levels are achieved in the future.

The EPA is concerned that previous cumulative impact studies (undertaken as part of the planning process) and recent scientific literature, indicates that the current land use strategy for the town of Port Hedland is likely to be inadequate in terms of reducing human health impacts from iron ore dust. The current strategy is to plan for the relocation of more vulnerable people (e.g. seniors, children and persons with existing heart or lung disease) out of the affected areas of Port Hedland with the expectation that this will reduce human health impacts to acceptable levels. The exclusion from this strategy of the remainder of the Port Hedland population in affected areas is of concern.

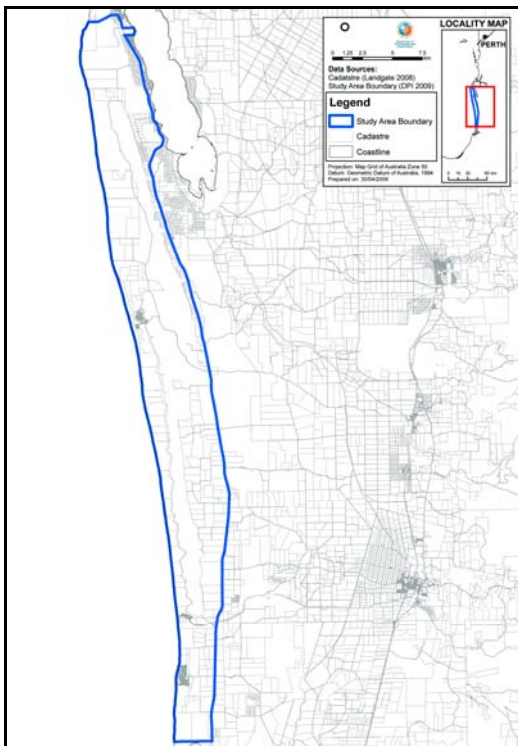
In addition, a recent study by Perez *et al*, (2008) found that airborne dust comprised of PM10 sized particles significantly increased the risk of mortality for the residents in the study location of Barcelona, Spain. These results were for PM10 arising from dust in the Sahara desert and suggest that the health effects of iron ore dust at the levels experienced in Port Hedland may be greater than previously thought and that all residential areas may be affected. The EPA is therefore of the view that the health effects of PM10 arising from sources such as dust in the absence of other sources needs to be given urgent attention.

It is the EPA's view that a coordinated approach to the development and execution of an integrated government and industry strategy (with explicit emission reduction strategies and explicit exposure reduction strategies) is required with strong and inclusive governance arrangements. This will ensure accountability through public

reporting on performance in achieving air quality and noise objectives.

The EPA believes that this is a matter of high priority and notes that a high level taskforce, chaired by the Director General of the Department of State Development, has recently been formed to address this issue.

Number 4: Strategic Advice – Dawesville to Binningup



Study Boundary (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA released Environmental Protection Bulletin No.4 Strategic Advice – Dawesville to Binningup in May 2009 to inform the public of the EPA's intentions and approach to providing strategic environmental advice for the coastal strip between Dawesville

and Binningup. The EPA is aware of increasing development and land use expectations for this area, which contains important international, national and regional environmental values, and presents a unique set of planning and environmental challenges.

The EPA considers that a strategic approach that takes account of both the environmental and planning issues needs to be developed for this area. To this end, the EPA is undertaking a review to clarify the environmental values of the region and the state of current knowledge and scientific data about these values. This information is necessary to identify additional areas of conservation significance, and areas that may have potential for development and land uses that are compatible with the environmental values.

The release of the EPA's Bulletin provided an opportunity for community consultation by incorporating a call for information. The call for information realised important local knowledge of the environmental values of the area, and identified additional technical reports. The DEC is also co-coordinating a series of environmental studies within the area which address vegetation and flora, fauna, hydrology, geoheritage and coastal landform. The EPA will consider the results of these, and previous studies, along with other planning and policy documents in formulating its advice. The EPA will also conduct its own research, including consultation with various government and non-government organisations, industry and community representatives.

This review will result in strategic advice from the EPA to guide future directions for both environmental

protection and planning for development in the area. The EPA is expecting its advice to the Minister for Environment to be released in December 2009. The advice will also be publicly available so it may be considered by the general community, industry, Commonwealth, State and Local Government, and other stakeholders.

Number 5: Deep Drainage in the Wheatbelt

A range of responses to address land salinisation have and are being implemented to reduce, recover, rehabilitate or manage salt-affected land. Drainage is seen by many farmers as an effective option to address on-farm salinity and improve productivity. A number of proposals have been implemented at scales ranging from paddock to whole farm and to regional schemes. Some of these schemes have resulted in significant adverse downstream environmental impacts

The EPA expects proponents to avoid or minimise adverse environmental impacts. Proposals are required to be forwarded to the Commissioner for Soil

Conservation. Where a drainage proposal is likely to have an adverse environmental impact the Commissioner will refer the proposal to the EPA. The proponent is then required to provide sufficient information to enable the EPA to form a view as to whether or not the proposal should be formally assessed.

If a drainage project is formally assessed there is a requirement for community engagement. The EPA's experience is that early engagement with those possibly effected brings out issues of concern and enables them to be addressed during the assessment process.

ENVIRONMENTAL ASSESSMENT OF PROPOSALS

A total of 457 development proposals and planning schemes were referred to the EPA for consideration, a decline of almost 10 per cent from last year. This decline has primarily occurred in the first half of 2009 and has been reflected in both development proposal and planning scheme referrals. The EPA determined that 38 of these referrals

Table 2: Environmental Protection Authority's Completed Assessments in 2008-09

Level of Assessment	Assessments
Strategic Environmental Assessment	1
Environmental Review and Management Program (ERMP)	1
Public Environmental Review (PER)	11
Planning Scheme Environmental Review (ER)	2
Scheme Incapable of Being Made Environmentally Acceptable	0
Assessment on Referral Information (ARI)/ Environmental Protection Statement (EPS)	9
Formal under Part IV	0
Proposal Unlikely to be Environmentally Acceptable (PUEA)	1
Section 46 Change to Conditions	10
Section 16 Strategic Advice	7
Total	42

required formal assessment, reporting and providing recommendations to the Minister for Environment. This was similar to 2006-07, and a decline of about one third from 2007-08. A further 174 referrals did not require assessment but specific advice was provided to proponents and approval agencies, primarily in relation to planning schemes.

During the year, 42 formal assessments or provision of formal advice were completed by the EPA under s38 of the EP Act. This was an increase over the number of reports released in 2006-07

impacts. The number of assessments completed in each Level of Assessment category in 2008-09 is shown in Table 2. A list of all assessments completed is set out in Appendices 1, 2, 3, 4, 5, 6, 7, 8, and 11. The breakdown for some of the more significant assessments are discussed below, preceded by a brief discussion of some overarching issues in relation to the environmental assessment process.

As with previous years, there has been a significant difference in the time taken for proposals to reach the EPA Report stage. This is illustrated in Table 3 and

Table 3: Assessment times for major projects (in weeks)

Assessment Phase		2004/05	2005/06	2006/07	2007/08	2008/09
From Level of Assessment set to proponent report release+	Mean	55	63	38	92	81
	Low*	9	12	11	32	13
	High*	223	209	80	209	189
Public review period	Mean	6	7	4	10	6
	Low*	4	4	4	6	4
	High*	8	16	10	17	8
End of Public review period to proponent response to EPA+	Mean	35	32	12	27	18
	Low*	5	2	4	17	6
	High*	149	266	37	58	46
Proponent response to EPA report release	Mean	7	10	8	10	11
	Low*	3	4	2	3	5
	High*	23	27	16	27	28
Total, from level of assessment set to EPA Report release	Mean	103	114	62	140	115
	Low*	25	22	24	64	36
	High*	273	335	129	302	209

* Represent extremes across separate projects. Total is not cumulative.+ This part of the process is largely under proponent control.

and 2007-08 respectively. The Level of Assessment for each proposal or planning scheme depends on the significance of the environmental

Figure 1 below. Only proposals that included a formal public review period were used to illustrate this variability.

This is represented graphically in figure 1 below, which shows the average periods taken for each stage of the assessment process over the period 2004/05 to 2008/09.

TIMELINES FOR ENVIRONMENTAL IMPACT ASSESSMENT OF PROPOSALS

Improving the timeliness of the assessment of proposals has been a major thrust of recent governments. It is also an area where the EPA has been and will continue to be responsive. This is one of the key issues considered in the EPA's Review of the Environmental Impact Assessment Process in Western Australia and will be further addressed in the revised Administrative Procedures for environmental impact assessment that are being drafted.

As can be seen from Table 3 above and Figure 1 below, the total time taken for assessments of projects involving public review has reduced in 2008-09. While much is made about the total time taken from the beginning to the end of the EPA's environmental impact assessment process, it needs to be acknowledged that most of the time is taken by proponents and is not subject to timing control by the EPA. As part of all assessments being undertaken by the EPA, an agreed timeline for the assessment is prepared by the proponent as part of the scoping of the assessment.

A review of recently completed assessments indicates that most proponents take longer than they anticipated to have an EPA agreed

environmental scoping document and to prepare their environmental review document.

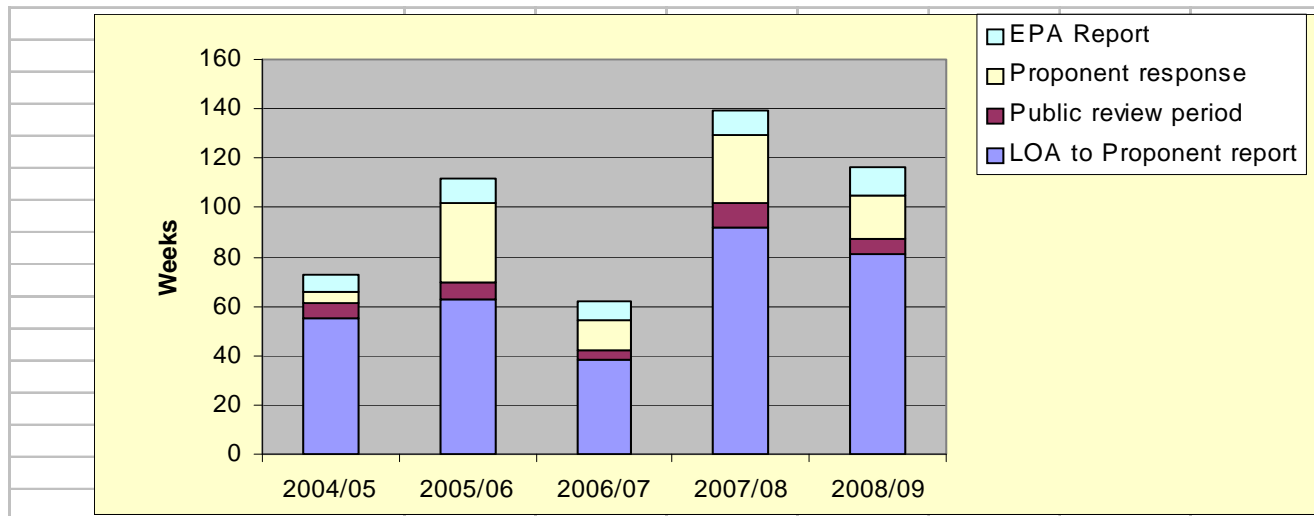
These delays have implications on the ability of the EPA and its Service Unit to progress the assessment. There remains a significant number of outstanding assessments to be completed, and considerable pressure to complete assessments as quickly as possible. Therefore, assessment resources in the Service Unit are assigned to other projects when proponents fail to submit adequate documentation in a timely manner. This is an appropriate and efficient use of the Service Unit's staff. Where proponents meet their agreed timelines, resources will continue to be available to continue the assessment in accordance with agreed timelines.

Strategic Environmental Assessment

The EPA continues to see considerable opportunities to more effectively and efficiently deal with proposals early as Strategic Proposals. While there remain obligations on proponents to undertake investigations to inform the EPA's assessment and thus provide a level of certainty through environmental conditions that may result, it also allows assessments to look at complex proposals or a series of future proposals before all of the detailed design and engineering is completed.

Two different approaches have been used during this year for proposals being assessed as Strategic Proposals. The first is the Kimberley LNG precinct, where the EPA has provided early site selection advice to the Government through section 16 of the *Environmental*

Figure 1: Average time taken for the assessment of proposals over the past five years.



Protection Act 1986, prior to undertaking the formal assessment of the selected precinct development. This shows an approach that would be applicable to large scale and complex projects where there are options for development.

A more traditional Strategic assessment approach applied to the proposed Smiths Beach development, near Yallingup. This proposal, for Sussex Location 413 Yallingup – Smiths Beach Development Guide Plan by Canal Rocks Pty Ltd, was the subject of EPA Report 1318.

Further details about these specific proposals is presented below under Major Development Proposals.

Application of s4A principles

Amendments to section 4A of the *Environmental Protection Act 1986* contain five principles which, in summary, cover:

- the precautionary principle;
- the principle of intergenerational equity;

- the principle of the conservation of biological diversity and ecological integrity;
- principles relating to improved valuation, pricing and incentive mechanisms; and
- the principle of waste minimisation

The EPA, in giving effect to its duties and functions under the EP Act, must have regard to these.

The EPA does this in two main ways. Firstly, through ensuring that its environmental impact assessment process addresses the requirement to have regard to the principles. Secondly, it gives expression to these through its policy statements: in particular Position and Guidance Statements (to be renamed as part of the EPA reform agenda).

MAJOR PROJECTS

All EPA Reports are available at <http://www.epa.wa.gov.au/template.asp?ID=16&area=EIA&Cat=EPA+Reports+%28formerly+bulletins%29>

Yannarie Solar Salt



Location of Exmouth Gulf and Yannarie Solar proposed footprint (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA reported on the proposal by Straits Salt Pty Ltd to develop a four million tonne per annum solar salt field on the eastern shore of Exmouth Gulf in the north west of WA. The proposal includes concentration and evaporation ponds extending along 30 kilometers of coast and covering approximately 17,500 ha of the salt flats located between the fringing mangroves and the hinterland shoreline. The proposal also includes the construction of stockpile facilities, a harbour, a small airport, laboratories, workshops and offices.

Yannarie Solar Salt was assessed at the level of Environmental Review and Management Program (ERMP). The EPA Report on this proposal was published on 23 July 2008 (Report number 1295).

Since Yannarie Solar Salt involves environmental issues which fall under both State and Commonwealth jurisdiction, the environmental impact assessment was carried out jointly by the EPA and the Commonwealth Department of the Environment, Water, Heritage and the Arts.

The EPA decided that the following key environmental factors relevant to the proposal required detailed evaluation:

- (a) Conservation status and policy framework;
- (b) Mangrove and algal mat communities – changes to relative sea level;
- (c) Marine productivity - nutrient input;
- (d) Biota and water quality - salinity and bitterns management;
- (e) Water quality – acid and heavy metal release;
- (f) Marine fauna - vessel operations; and
- (g) Habitat loss.

The EPA concluded that the proposed solar salt farm is located in an area that presents unacceptably high risks of environmental harm to wetland values and unacceptable levels of uncertainty in relation to long-term management of the waste product called bitterns.

The whole of the east coast of Exmouth Gulf, including all of the salt flats and in-shore waters, are listed as a wetland of national importance in *A Directory of Important Wetlands in Australia*. The EPA considered that it would be environmentally unacceptable to locate a large salt field within a wetland of national importance. While the salt field is proposed to be largely located on an area of apparently bare salt flats, the EPA concluded that these flats form an integral part of the wetland ecosystem and land unit supporting algal mats and mangroves which underpin the productivity to the wetland and Exmouth Gulf. The EPA considered that the proposed disturbance on the salt flats could have serious and irreversible adverse impacts on the algal mats and mangroves.

The EPA recognises wetlands that are listed in *A Directory of Important Wetlands in Australia* as critical assets representing the most important environmental assets in the State and requiring the highest level of protection. The status of the site as a critical environmental asset, together with the extent of predicted impacts, the high degree of residual uncertainty and the unacceptably high risks posed by the proposal led the EPA to conclude that the proposal is environmentally unacceptable.

The key areas where significant impacts or risks of impacts were identified are:

- Loss of biodiversity and wetland values in a listed wetland of national importance;
 - Significant loss and fragmentation of benthic primary producer habitat and associated ecosystem services as a result of

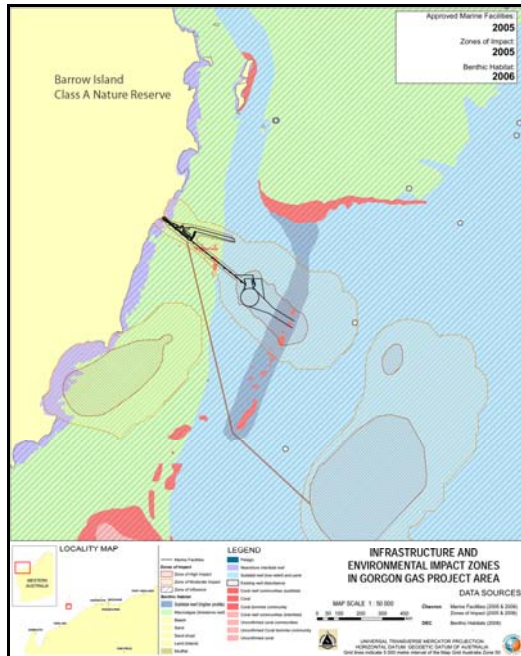
salt pond levee walls blocking the distributional adjustments of algal mat and mangrove communities in response to sea level rise;

- Potential loss of regionally significant mangroves and algal mats caused by the mobilisation of hypersaline groundwater;
- A high level of uncertainty in relation to the proponent's ability to manage the ongoing production of over 1 million cubic metres per annum of bitterns, which is toxic to marine biota and therefore likely to degrade wetland and biodiversity values should bitterns discharge occur either accidentally or be required to maintain salt field production;
- Potentially significant and damaging changes to nutrient availability and delivery to coastal waters, affecting productivity in Exmouth Gulf; and
- Potential release of acid and heavy metals to coastal wetland environments during dredging operations and from stored acid sulphate sediments following excavation.

The EPA did not believe that the environmental values of the area could be maintained with a high degree of certainty, or that the risks to those values would be acceptably low in the long-term. Based on this assessment, the EPA did not believe that the proposal could be made environmentally acceptable and recommended that the proposal should not be permitted to proceed.

Liquefied Natural Gas

Revised and Expanded Gorgon Gas Proposal



Infrastructure and environmental impact zones in Gorgon gas project area. Approved project with previously predicted zones of impact. (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA reported on the proposal to revise and expand the previously approved Gorgon liquefied natural gas (LNG) development, on the Barrow Island Class A Nature Reserve, by Chevron Australia and its joint venture partners Shell Development Australia and Mobil Resources Company (Report 1323, April 2009). The proposal includes the addition of a third 5 million tonnes per annum gas processing train, additional carbon dioxide injection wells and changes to marine infrastructure and dredging. The proposal was assessed at

the level of a Public Environmental Review (PER).

The EPA decided that the key environmental factors requiring detailed evaluation in the report were:

- Marine turtles;
- Dredging, marine blasting and marine infrastructure;
- Introduced non-indigenous organisms;
- Subterranean fauna / short range endemics;
- Greenhouse gases;
- Air quality; and
- Noise.

The EPA reiterated as a matter of principle, its original view that any development on Barrow Island Class A Nature Reserve should not be implemented, particularly given the very high and unique conservation and environmental values of the island.

The EPA recognised that an earlier LNG processing and export project had been granted environmental approval on Barrow Island, following an appeals process, undertakings by the proponent to provide a number of offsets and the imposition of environmental conditions by the then Minister for the Environment. Those existing conditions require the production of environmental management plans by the proponent, the provision of specialist advice on quarantine, dredging and marine turtles by Expert Panels and endorsement of those plans by the Minister or her delegate.

The EPA did not undertake a re-assessment of the original proposal in its current assessment of the revised and expanded proposal.

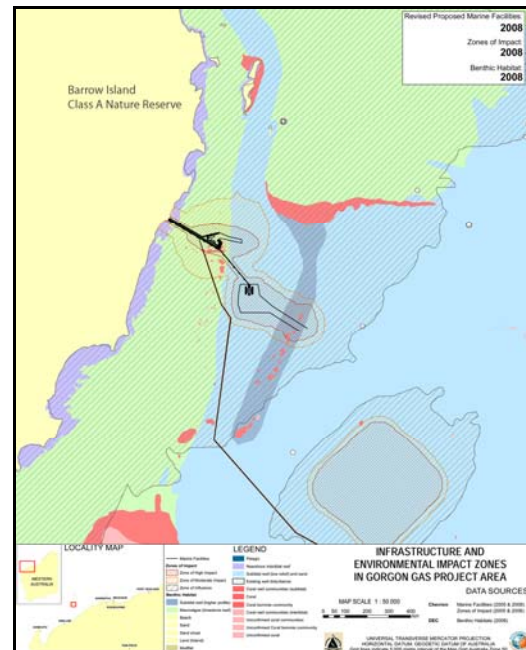
The EPA assessed the revised and expanded proposal mindful that the proponent expressed a view that essentially the same undertakings and conditions should apply to the new proposal as currently apply to the approved project and that no further conditions or offsets were warranted.

The EPA's assessment of the revised and expanded proposal led it to a different view. The EPA considered that there was an increased likelihood of additional impacts and risks, beyond those assessed as likely from the approved project. Furthermore, based on current knowledge, there remained varying levels of uncertainty around those additional impacts and risks and the degree to which they may be manageable under the conditions and other undertakings required for the approved project.

The EPA particularly noted the increased likelihood of additional impacts to high value environmental assets, especially marine turtles and the high value coral-dominated habitat of the Lowendal Shelf, associated with the proposed 50 per cent increase in LNG production and revisions to marine infrastructure.

The impacts of the revised and expanded proposal on the long-term viability of the Town Point flatback turtle rookery was of particular concern to the EPA, since this is one of the most significant rookeries in WA

The EPA considered that the proposal, as presented, did not provide a reasonable prospect for the long term viability of this valuable turtle rookery.



Infrastructure and environmental impact zones in Gorgon gas project area. Current proposal with currently predicted zones of impact. (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA concluded that the primary method of protecting flatback turtles should be by the imposition of a condition with the objective of achieving an *unaltered light horizon* (compared with the current natural conditions) from the perspectives of both gravid female flatback turtles and hatchlings. The EPA said that the precise manner in which this objective would be achieved should be developed by an Expert Panel.

The EPA also regarded the increased potential impacts of dredging and marine infrastructure construction on the high value coral dominated habitat of the Lowendal Shelf as an important issue. Noting that modelling showed that the moderate zone of impact had moved

from about 1000m away from the Lowendal Shelf to within about 350m of it, the EPA considered that the conditions in place for the approved project would not meet the EPA's objectives for protection of this important environmental asset for the revised and expanded proposal.

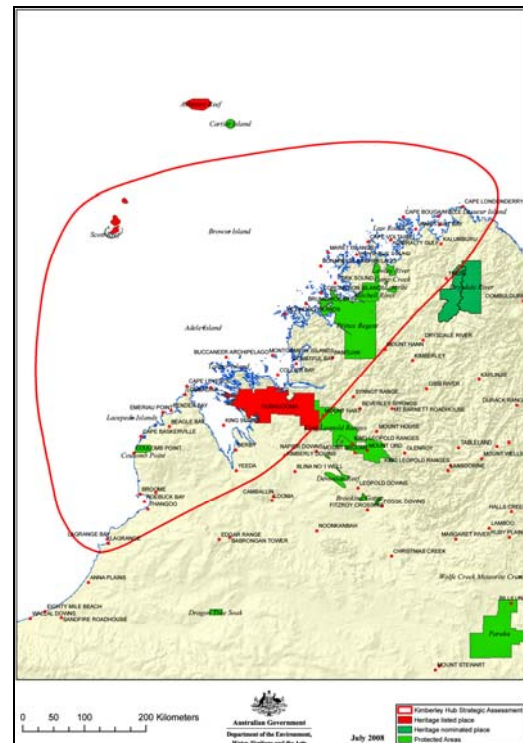
The EPA considered that management of dredging and marine infrastructure construction could meet the EPA's objective if a condition were imposed that required that these activities use and be managed according to real time monitoring and modelling against sub-lethal trigger levels with corrective action, following advice to the Minister for Environment by the Construction Dredging Environmental Expert Panel.

The EPA considered that the revised and expanded Gorgon gas proposal could only meet the EPA's environmental objectives if, and only if, stringent conditions were applied to it.

The EPA noted that, while there would be expectations from both the community and the proponent that the intent of the existing conditions would be honoured, due to the increased level of risk resulting from the revised and expanded proposal, modifications to those conditions would be required to ensure these risks were properly managed.

The EPA recommended that the Minister note that, having assessed newly identified and additional risks (including light, dredging and blasting), the revised and expanded proposal could meet the EPA's objectives subject to the inclusion of stringent Ministerial Conditions dealing with the totality of the Gorgon project.

Kimberley LNG Precinct



Area being considered for potential LNG precinct site (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA provided early environmental advice in relation to the State Government's site evaluation process for a multi-user liquefied natural gas (LNG) processing precinct to process gas resources from the Browse Basin in the Kimberley region of WA (Report 1306, December 2008). This advice was an important strategic contribution by the EPA to the selection of a site that could contribute to the social and economic development of a region with a predominantly indigenous population while properly protecting the environmental values of this important area.

The Kimberley region of WA is largely undeveloped and is recognised as having significant environmental, wildness and heritage values. The northern coastal areas of the Kimberley are amongst the least disturbed marine and terrestrial habitats in Australia with intact coastal processes and biota. The tropical marine waters of the Kimberley provide habitat for threatened species such as dugong, turtles and Humpback whales.

In recognition of the potential development pressures on the Kimberley region's exceptional natural and Indigenous heritage values, the State and Commonwealth Governments commenced a coordinated review of areas in the Kimberley to find the most suitable location for a multi-user LNG precinct for the development of Browse Basin gas.

Selection of a site capable of producing 50-70 million tonnes per annum of LNG in the Kimberley is a significant, strategic decision that will influence development and the environment there for decades into the future. Once established, the site is likely to attract further large proposals in the future. In providing its advice, the EPA therefore considered not only the specific attributes of the short-listed sites, but also the wider implications of selecting a site.

Site selection was undertaken through an extensive consultation process coordinated by the Northern Development Taskforce (NDT), involving a wide range of stakeholders including Indigenous native title claimants, representatives from local community/s, industry/s, and state and nationally based environmental NGO's, and expert (government and non-

government) representatives. As part of this process a number of targeted studies were undertaken to provide more detailed information on the characteristics of short-listed potential sites, to complement an evaluation of suitability based on understanding of site and regional environmental characteristics from existing knowledge. These targeted studies included terrestrial flora, vegetation and fauna surveys, marine habitat mapping and met-ocean studies, as well as coastal geomorphology and landscape assessment of all short-listed sites.

The EPA was closely informed and consulted through the process, and met with a range of key stakeholder representatives during this process. The EPA also travelled to the region and visited a number of the potential sites, including all the short-listed sites in the southern Kimberley.

In October 2008 the NDT released its Site Selection report for public comment, short-listing four possible sites for an LNG precinct. From North to South the sites were Anjo Peninsula in the far northern Kimberley, North Head at the northern end of the Dampier Peninsula, James Price Point north of Broome, and Gourdon Bay south of Broome. The EPA considered the NDT report and comparative information on the possible sites and public comment on the sites before providing advice to the Minister for Environment under section 16 (e) on the site selection process and short-listed sites.

EPA Advice on Site Selection

Taking the above matters and environmental values and constraints into account, the EPA reached the following conclusions about the four

short-listed sites, based on the information then available.

Gourdon Bay

Based on the available data, the EPA considered that Gourdon Bay was the least environmentally constrained of all four short-listed sites for a gas processing precinct.

James Price Point

The EPA considered that the James Price Point area was the least environmentally constrained of the two short-listed sites on the Dampier Peninsula north of Broome for a gas processing precinct.

North Head

The EPA concluded that North Head was not suitable for large scale industrial development from an environmental point of view.

Anjo Peninsula

The EPA concluded that Anjo Peninsula was not suitable for large scale industrial development for both environmental and wilderness values reasons.

National heritage values

The EPA viewed the initiative to progress:

- planning for the identification and assessment of an LNG precinct site;
- assessment of national heritage values in the north-west Kimberley; and
- development of an initiative for joint management for biodiversity and Indigenous cultural heritage protection

across conservation and Indigenous controlled lands in the region,

as representing a significant and welcomed approach to development and conservation in the Kimberley.

The EPA considered that these three initiatives should continue to be progressed in parallel as they are fundamental to achieving ecologically sustainable development and effective management of conservation and cultural values in the Kimberley. If implemented in a timely manner, the EPA considered that the outcome of the strategic assessment would produce long lasting benefits to the conservation and management of the Kimberley environment and the Indigenous communities of the region.

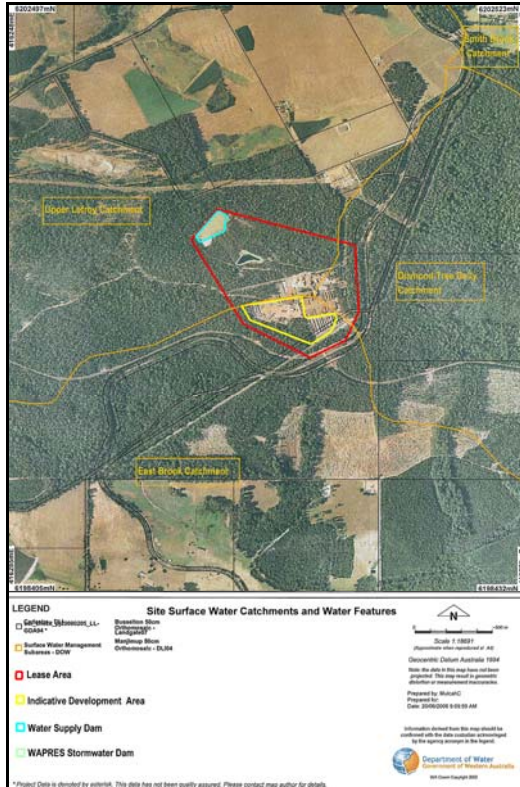
Future assessment process

The EPA noted that the sites examined in its strategic level report had not yet been subject to formal environmental assessment. A formal environmental assessment of a strategic proposal is now being undertaken under the *Environmental Protection Act 1986*. Future proposals which are brought forward and which fit within the assessed strategic proposal, known as derived proposals, will not generally be subject to further assessment by the EPA. This is the desired objective of such a strategic assessment.

Manjimup 40MW biomass power plant

The EPA reported on the proposal by Western Australia Biomass Pty Ltd to construct and operate a 40 megawatt (MW) biomass power plant in

Manjimup, WA. (Report 1294, July 2008).



Biomass Power Plant catchment boundaries and surface water features (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The project, to be fuelled by 380,000 tonnes per year of plantation wastes exclusively, when constructed will be the largest biomass power plant in WA.

The EPA decided that the following key environmental factors relevant to the proposal required evaluation in the report:

- Air quality; and
- Ground and surface water quality.

The EPA recognised the environmental benefits of the proposal due to the

greenhouse gas savings from using renewable fuel to generate electricity.

The proposal is to be located near land used for agriculture and there was significant public concern over air quality issues related to public health and impacts of the power plant on agriculture.

The EPA recommended the emission limits specified in the European Commission's Directive 2001/80/EC as appropriate limits for this proposal along with the best practice emission limit for dioxins/furans of 0.1ng toxic equivalent (TEQ) per m³. The proposal also implements best practice technology as specified in the European Commission's *Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques for Large Combustion Plants* (July, 2006).

Based on the adoption of best practice and independent assessments of the impact of the power plant on public health and agriculture, the EPA recommended that the proposal could be managed to an environmentally acceptable level, subject to the implementation of the recommended conditions.

The proposal is also located at the boundary of the East Brook Catchment to the south, the Lefroy Brook Catchment to the northwest and the Smith Brook Catchment to the east.

Approximately 7,500 to 11,500 tonnes per annum of fly and furnace ash would be generated by the proposal. Ash would be stored temporarily on the site before offsite disposal. Stormwater modelling showed that the proposed design and layout of the plant is capable of

capturing all runoff from a 1-in-10 year, 24-hour storm during an average 90th percentile rainfall year.

Based on the advice of the Department of Water, the EPA concluded that it is unlikely that the ground and surface water quality will be compromised by the proposal, subject to the implementation of the recommended conditions.

Iron Ore

Completed Iron Ore Projects 2008/2009 – Midwest Region

Extension Hill Hematite Haulage – is a proposal by Mt Gibson Mining to upgrade and widen existing local roads and construct and operate a rail siding south of Perenjori. The purpose of the road upgrade and rail siding development is for the haulage of hematite ore from the Extension Hill Mine. The key environmental factors are impact to priority flora and vegetation communities classified as endangered, vulnerable or depleted. The EPA released its Report in July 2008 (Report 1296).

Koolyanobbing Iron Ore – W2 pit – mining below the groundwater table – is an expansion of the existing mine by Portman Iron Ore Limited (now known as Cliffs Natural Resources Pty Ltd). The proposal is located in the Yilgarn region on Banded Ironstone Formation (BIF) Ranges which contain numerous endemic flora and fauna species. The key environmental factors are impact to declared rare flora and vegetation from dewatering and dust deposition, and issues associated with rehabilitation. The EPA released its Report and

recommendations in November 2008 (Report 1303).



Karara and Mungada Iron Ore Projects Site location map (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

Karara Iron Ore Project – is a proposal by Karara Mining Limited to mine iron ore. The proposal is located on BIF Ranges which contain numerous endemic flora and fauna species. The key environmental factors are impact to rare and priority flora, vegetation communities (Blue Hills vegetation complex Priority Ecological Community (PEC)), listed fauna and issues associated with rehabilitation. The EPA released its Report in April 2009 (Report 1321).

Mungada Iron Ore Project – is a proposal by Karara Mining Limited to

mine iron ore. The proposal is related to Karara Mining Limited's Karara Iron Ore Project (KIOP) and is intended to share common infrastructure. The proposal is located on BIF Ranges which contain numerous endemic flora and fauna species. The key environmental factors are impact to rare and priority flora, vegetation communities (Blue Hills vegetation complex PEC), listed fauna and issues associated with rehabilitation. The EPA released its Report in April 2009 (Report 1322).

Koolanooka/Blue Hills Direct Shipping Iron Ore Mining Project – is a redevelopment of a previously developed area, with the inclusion of new iron ore mining areas by Sinosteel Midwest Corporation Limited. The proposal is located on BIF Ranges which contain numerous endemic flora and fauna species. The key environmental factors are impact to rare and priority flora, vegetation communities (Koolanooka Hills Threatened Ecological Community (TEC), Blue Hills vegetation complex PEC), listed fauna and issues associated with rehabilitation. The EPA released its Report in 2 June 2009 (Report 1328).

The Karara Iron Ore Project, Mungada Iron Ore Project and Koolanooka/Blue Hills Project proposals all occur on the Blue Hills Range. Key EPA recommendations for the three proposals were that they could only be considered environmentally acceptable with Ministerial Conditions, and on the provision that the entire Mungada Ridge is excluded from development and protected in a Class A Nature Reserve. Additionally, it was the view of the EPA that the Mungada East and Terapod areas form part of the Mungada Ridge system and therefore should be protected

from development and form part of the conservation reserve area.

In April 2009 Government advised that it intended to establish a Class A Nature Reserve over relinquished areas in the Blue Hills Range. In July 2009 the Government advised that a portion of the Mungada Ridge is to be reserved for conservation purposes, however development was approved in the Terapod area.

Iron Ore Projects currently under assessment – Midwest Region

Weld Range Iron Ore Project – is a proposal by Sinosteel Midwest Management Pty Ltd to mine iron ore. The proposal is located in the BIF Ranges which contain a number of rare and priority flora, vegetation communities and fauna that would be impacted by the proposal. The key environmental factors are impact to listed short range endemic (SRE) fauna, specifically the Shield-backed Trap-door Spider. The proponent is currently finalising its draft Public Environmental Review (PER) document.

Jack Hills Mine Expansion Stage 2 – is an expansion of the existing mine by Crosslands Resources Limited. The proposal is located in the BIF Ranges which contain a number of rare and priority flora, vegetation communities and fauna that would be impacted by the proposal. The key environmental factors are impact to conservation significant SRE fauna, habitat, rare and priority flora and vegetation communities. The proposal includes a gas pipeline that is to intercept the Dampier to Bunbury Natural Gas Pipeline and a haul road from the Weld Range. The proponent

has recently submitted a draft Scoping document.

Koolyanobbing Iron Ore – Mount Jackson J1 Deposit – is a proposal by Cliffs Asia Pacific Iron Ore Pty Ltd to mine iron ore. The proposal is located in the Yilgarn region on BIF Ranges which contain numerous endemic flora and fauna species. The key environmental factors are the impact to priority flora, vegetation communities (*Calytrix* sp. Paynes Find), listed fauna and issues associated with rehabilitation. At the time of writing the PER document was out for public comment.

Completed Iron Ore Projects - Pilbara

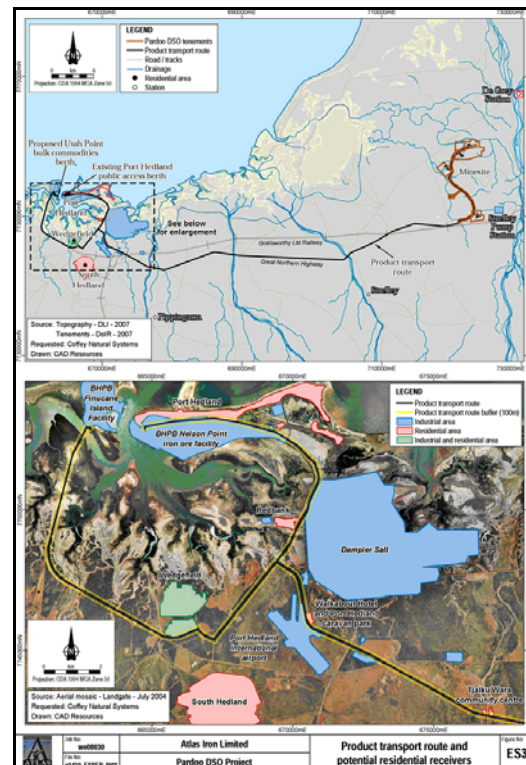
Rio Tinto P/L: Western Turner Syncline Section 10 iron ore mine - is a proposal to mine iron ore 20km west of Tom Price. Typical of mines in this region, the ore comes from the Brockman Iron Formation.

The key environmental issues are actual and potential loss of vegetation and fauna, including some declared rare flora and priority flora, surface water flows, and mine closure and rehabilitation.

The EPA considered that the proposal could be managed to meet the EPA's environmental objectives and released its Report (Report 1325) in May 2009. The EPA recommended that the Priority 1 species '*Goodenia* sp. Pilbara calcrete' in areas adjacent to those to be cleared, and that runoff or seepage from the mine should be monitored, with results from both sets of data to be submitted annually to the DEC.

Atlas Iron Limited: Pardoo direct shipping iron ore - This is a new proposal to mine iron ore from eight

small pits located 70km east of Port Hedland. The key environmental issues are groundwater and surface water, flora and vegetation, subterranean fauna, dust and rehabilitation and mine closure. Groundwater issues are of particular concern given the location of the proposal within the De Grey River water reserve.



Pardoo direct shipping iron ore Product Transport Route (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA recommended conditions to include the prevention of impacts to groundwater quality arising from pit lakes, preservation of priority flora and vegetation, and additional troglofauna surveys targeting *Ideoblothrus* n. sp.

The EPA Report was released in June 2008 (Report 1289). Ministerial Statement 775 was published on 3 October 2008, granting approval subject to implementation conditions.

Ferro Metals Australia P/L: Balla Balla magnetite - is a proposal to mine and process magnetite ore located approximately 10km north-west of Whim Creek, midway between Karratha and Port Hedland. The key environmental factors identified are impacts to flora and vegetation, fauna, surface and groundwater, heritage areas and mine closure. The EPA released its Report (Report 1309) in January 2009.

The EPA considered that the proposal could be managed to meet the EPA's environmental objectives, subject to the recommended conditions being made legally binding. Conditions related to protecting vegetation from groundwater drawdown, ensuring trapped fauna is cleared from within open pipeline trenches, management and monitoring of leachate and run off to the environment and mine closure and rehabilitation.

Iron Ore Projects currently under assessment - Pilbara



*EPA site visit to Cape Preston June 2009
(Photo: D Drake – Brockman)*

Mineralogy Pty Ltd: Balmoral South Iron Ore Project - is a proposal to mine and process magnetite ore located in the Cape Preston region, 80km south west of Karratha. The key environmental factors include flora and vegetation, fauna and habitat, surface and groundwater, marine ecosystem, air quality and mine closure. The EPA is currently assessing this proposal at the level of assessment of PER) with an eight week review period and is expecting to release its Report in the first quarter of the 2009/10 financial year.

Pilbara Iron P/L: Marandoo - is a proposal to mine below the water table at the existing Marandoo Mine site, which was approved by the Minister for the Environment in 1992. The mine is located on land excised from Karijini National Park.

Key environmental issues for this proposal include impacts arising from groundwater drawdown beneath priority ecological communities and springs within the national park, and discharge of dewater to ephemeral creek lines. Other issues arising from the proposal include impacts to visual amenity, formation of sinkholes within the national park and greenhouse gas emissions.

The proposal was referred to the EPA in July 2007. The level of assessment was set at PER with a review period of eight weeks, which began on 29 September 2008. The EPA is expected to release its Report in the second quarter of the 2009/10 financial year.

Ports

Dredging at Finucane Island, BHP Billiton RGP5 Project, Port Hedland



Mangroves between causeways (Photo: Dr Cameron Sim)

The EPA reported on the proposal to dredge approximately 3.9 million cubic metres of material for two new berth pockets and extensions to the existing departure channel and swing basin at Harriet Point and Stanley Point, Port Hedland in November 2008 (Report 1304). This proposal was assessed at the Assessment on Referral Information level.

Potential acid sulphate soil material is to be disposed offshore in Commonwealth waters at the Port Hedland Port Authority (PHPA) Spoil Ground 'I'. Dredged material not disposed offshore will be used to reclaim two bays on the eastern side of Finucane Island and excess fines will be stored at a previously undisturbed area to the west of Fortescue Metals Group's port facilities. The proposal will cause the loss of up to 6.5 ha of mangroves.

The EPA decided that the following key environmental factors relevant to the

proposal required detailed evaluation in the report:

- mangroves – habitat loss;
- marine water quality;
- acid sulphate soils; and
- rehabilitation.

The EPA concluded that:

- the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the conditions for marine water quality, acid sulphate soils and rehabilitation of the dredge disposal areas;
- the loss of 6.5 ha of mangroves cannot be avoided. The proponent followed the EPA's recommended process where benthic primary producer habitat is to be disturbed. The proponent undertook all possible steps to minimize the loss of mangroves and the conditions will ensure there will be no loss of mangroves above what is proposed; and
- environmental values within and outside the Port Hedland Inner Harbour will continue to be protected and maintained.

Utah Point Berth Project (Stage B)

Port Hedland Port Authority (PHPA) proposes to develop a new stockpiling and ship-loading facility at Utah Point on Finucane Island, WA. This facility will cater for the expected increase in export tonnage through Port Hedland.

The port is a key export centre for many mines that are operating in the region and handles iron ore, copper,

manganese, chromite and salt as well as general cargo.

The key environmental factors considered in the EPA's assessment (Report 1311, released January 2009) included the loss of mangroves, noise and the impacts on air quality from dust.

The proposal will result in the loss of approximately 18.7 ha of mangroves. The proposal has been considered against the EPA Guidance Statement No. 29, Benthic Primary Producer Habitat Protection (available at <http://www.epa.wa.gov.au/template.asp?ID=14&area=EIA&Cat=Guidance+State+ments>). The additional loss of mangroves as a result of this proposal and other proposals in the port area takes the cumulative loss of mangroves to approximately 11%. Hence, the proposal is in an area where the 10% cumulative loss threshold for ports has now been exceeded. Cumulative loss thresholds represent a risk based precautionary approach whereby there is a level of confidence that the ecological consequences of cumulative loss below this threshold are manageable.

The EPA's Guidance Statement No. 29 provides a methodology that proponents should address where the threshold is being approached or exceeded, so that the ecological risks and consequences of impacting benthic primary producer habitat can be established. The EPA noted that the proponent has considered its proposal in accordance with the EPA's Guidance Statement No. 29 and that the proposal had been designed to avoid and minimise mangrove losses, in particular, the loss of closed canopy mangroves as these are known to have a high biodiversity value. The proponent has also developed an environmental

management plan for mangroves which includes management actions that can ensure the impacts on mangroves are confined to a maximum area not exceeding the prescribed 18.7 ha. The loss of these mangroves is judged by the EPA as unlikely to significantly affect the integrity of the mangrove ecosystem.



Existing and proposed berth developments in Port Hedland harbour (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

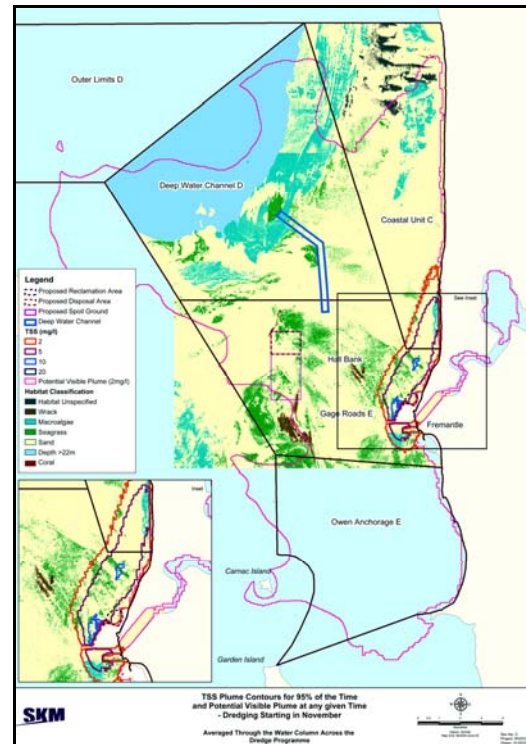
In relation to noise, there is a long standing issue of non-compliance with assigned noise levels in Port Hedland. Modelling conducted by PHPA predicts that the noise emissions from both the Utah Point Berth Project (UPBP) and the future PHPA port operations in Port Hedland, though exceeding the acceptable noise standard, will generally be lower than if the UPBP is not

constructed due to the noise source being relocated away from the residential area of the township. The proponent is committed to instituting noise control treatments to affected dwellings.

The EPA acknowledged that effective dust management is complicated, particularly in Port Hedland because of the range of dust sources and the lack of an adequate buffer between the existing port operations and sensitive premises (in particular, west Port Hedland). The proponent's dust emissions modelling data indicates that there would be a general reduction in the overall dust concentration in areas immediately adjacent PHPA operations at Berth 1 with negligible impact on receptors at Wedgefield Industrial Estate, Port Hedland Primary School and Hedland Senior High School. This benefit is largely attributed to the UPBP being located further away from Port Hedland and it being a purpose-built facility with dust attenuating design enhancements. The EPA considered that the proposed dust management for the proposal is appropriate and will lead to an improvement in the overall air quality and that the issue will be most effectively managed under Part V of the *Environmental Protection Act 1986* licensing rather than applying conditions on this proposal under Part IV of the EP Act.

The EPA concluded that the proposal can be managed to meet the EPA's environmental objectives.

Fremantle Port Inner Harbour and Channel Deepening, Reclamation at Rous Head and Offshore Placement of Dredged Material



TSS plume modelling for 95% of the time – November (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

Fremantle Ports proposes to deepen the Fremantle Inner Harbour, Entrance Channel and the Deep Water Channel to allow 14 m draft ships to utilise the Inner Harbour, enabling the port to maintain compatibility with other national container ports, and ensuring global shipping lines can continue to berth at Fremantle.

The EPA has previously assessed a similar activity for Fremantle Ports in 1988, (EPA Bulletin 342, Ministerial Statement 039, Fremantle Inner Harbour Deepening Project).

In December, 2005 the EPA set the level of assessment at Public Environmental Review (PER). The PER was released for public review from 19 January 2009 and submissions closed on 3 March 2009. A total of eleven submissions were received during the public review period.

The EPA decided that the following key environmental factors relevant to the proposal required detailed evaluation in the report:

- Marine Ecology – Benthic Primary Producer Habitat (BPPH); and
- Marine Water Quality and Sediment Quality.

A key issue is the potential impacts of turbid plumes from dredging on benthic primary producer communities (seagrass, macroalgae, and corals) in addition to the direct dredging footprint. In Report 1330 (June 2009), the EPA noted that the proponent's predictions for the preferred November dredging scenario (unmitigated plume modelling) exceeded the 10% cumulative loss threshold specified in Guidance Statement Number 29, Benthic Primary Producer Habitat Protection (BPPH) (available at <http://www.epa.wa.gov.au/template.asp?ID=14&area=EIA&Cat=Guidance+State+ments>). However, it also noted that with management and mitigation measures proposed in the Dredge Spoil Disposal Management Plan the proposal may achieve less than the 10 per cent cumulative loss threshold for seagrass BPPH. The EPA recognised the difficulty in quantifying the ecological significance of the loss of BPPH and hence, cumulative loss thresholds are not used as rigid limits. The acceptability of

BPPH damage/loss is a judgement of the EPA based primarily on its assessment of the overall risk to the ecosystem integrity within a defined management unit if a proposal were allowed to be implemented. As such, outcome-based conditions were recommended to ensure that no direct or indirect losses of seagrass BPPH within the Gage Roads management unit, caused by this dredging campaign, exceed 50 ha.

In relation to marine water quality and sediment quality issues, Fremantle Ports undertook sampling and testing of sediments to demonstrate that the dredging, offshore disposal and reclamation at Rous Head will not cause the release of contaminants to the extent that they can adversely affect marine ecosystem integrity or other environmental values. The EPA considered that the adequate monitoring of sediment quality and dispersal is an important element of this project. Outcome-based conditions were recommended, requiring the specification of appropriate management and mitigation measures to be applied if monitoring demonstrates that the environmental quality 'trigger' levels are exceeded at any point during the dredging and reclamation program. These 'trigger' levels were based on the guidelines and recommended approaches in the Australian and New Zealand Guideline for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000) and the Environmental Quality Criteria Reference Document for Cockburn Sound (2003 – 2004) (EPA, 2005). The conditions also require ongoing monitoring for a set period of months following completion of the dredging program, or until it has been demonstrated that the Ecological

Protection values have re-established in the impacted areas.

Smiths Beach



SEA Developable Area (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA completed its assessment of the strategic proposal by Canal Rocks Pty Ltd, setting out the future development of Sussex Location 413, Yallingup. This is the first strategic proposal that the EPA has reported on since amendments to the *Environmental Protection Act 1986* in 2003 provided for strategic proposals to be assessed.

Strategic environmental assessment (SEA) provides the means for a proponent to voluntarily refer a strategic proposal for assessment by the EPA, even if the proposal itself does not have

an immediate significant effect on the environment. A strategic proposal might be a plan, program, or conceptual development that will lead to future specific proposals with likely environmental impacts.

The proposed development of Sussex Location 413 was referred to the EPA by Canal Rocks Pty Ltd in August 2005 with a request that the development of the nominated area be assessed as a Strategic Environmental Assessment (SEA). The EPA set the level of assessment in September 2005 as SEA. The future development set out by the proponent in the SEA review document is for a mix of residential and tourist development for part of the site, with the remainder being managed for conservation. The Draft Development Guide Plan in the SEA review document outlines details of the proposed development of 21.3 ha of Location 413.

The EPA decided that the following key environmental factors required detailed evaluation:

- (a) landscape and visual amenity;
- (b) native terrestrial vegetation and flora; and
- (c) conservation areas.

The EPA concluded that development to the full extent of the “developable area” identified by Canal Rocks Pty Ltd would not meet the EPA’s objective for “landscape and visual amenity”. The EPA considered the modelled views of the area from the north (from Torpedo Rocks/Yallingup) to be of most concern and that the views show an unacceptable visual impact on the headland and on the upper slopes of the development site.

However, the EPA considered that some development could be acceptable. An

acceptable area for development would exclude development out onto the headland and the slopes of the ridge outlining the headland, and would also exclude development on the higher portions of the site towards Canal Rocks Road. The EPA therefore set out a “SEA Developable Area” that shifts development just east of an existing cleared track and restricts it to below the 35 metre height contour. Using the “SEA Developable Area” defined through its assessment the EPA has identified areas of high conservation value that should be added to the Leeuwin- Naturaliste National Park. These areas include regionally significant vegetation units and other good quality vegetation that should not be developed. The EPA considered that these areas should be ceded to the Conservation Commission prior to any development.

The EPA also identified key attributes that derived proposals (i.e. derived from this strategic proposal) would need in order to meet environmental objectives for the environmental factors it has assessed. These include:

- the need for all development to be limited to the “SEA Developable Area”;
- height restrictions on development;
- the adoption of an acceptable colour palette for buildings; limits on clearing; and
- measures to limit indirect impacts on the national park.

ENVIRONMENTAL ASSESSMENT OF PLANNING SCHEMES

All planning schemes are referred to the EPA. Subdivision and development may be referred where significant environmental issues have not been resolved through earlier stages of the planning approvals. The intent of introducing amendments to the *Environmental Protection Act 1986* in 1996 requiring all planning schemes to be referred to the EPA was to ensure that planning and environmental matters were addressed at an early stage of the zoning process.

A key issue for the EPA in assessing planning schemes under s48A of the EP Act is to ensure a rational linkage between the level and detail of environmental assessment and the relevant ‘stage’ of planning approval being considered. The planning approval process is a hierarchical one, normally involving a series of stages through regional scheme, town planning scheme, structure plan, subdivision to development approval.

When assessing a scheme or amendment at the regional scheme stage, the EPA would normally focus on ‘higher level’ environmental issues such as protection of regionally significant environmental features. The level of detail required for environmental assessment normally increases for local planning schemes, structure planning and subdivision. For each of these stages, more detailed environmental information is required in terms of ensuring that boundaries of significant environmental features are secured and there is confidence that issues such as drainage and acid sulphate soils can be managed, for example. The EPA supports the provision of environmental

information appropriate to the stage of planning.

Close collaboration with planning agencies is an essential element in ensuring that this occurs and the process for considering development remains effective, efficient and timely.

In the past year there has been a continuing focus on securing land available for development. There has been a small decline in the number of schemes referred from the peak that emerged in 2006 and which was sustained in 2007-08. The EPA considered 340 schemes across the State. Of these, the EPA decided that 2 warranted assessment requiring an Environmental Review. The EPA decided not to assess the remaining 338 schemes. However, it did provide advice on 143 of these. Environmental advice is particularly effective where it results in scheme provisions that are given effect under the *Planning and Development Act 2000*. In many cases environmental advice recognises modifications to the development made during the referral to the EPA and binding requirements applied to development by Local Government to achieve better environmental outcomes.

For the remaining schemes the EPA provided no advice as the environmental issues had been satisfactorily addressed or the schemes represented amendments of minor environmental consequence.

Land development continues to focus on the Perth and Peel regions. There are areas within the Perth and Peel regions where development is likely to be proposed that are environmentally constrained and may be found to be environmentally unacceptable for development. This includes land which should be set aside for its conservation and recreation values. There are large urban areas within Perth and Peel, in particular,

where land was zoned before amendments to the environmental and planning legislation were introduced in 1996 and therefore the environmental issues were not considered at the time the land was zoned.

The EPA has previously raised the issue of the need for a mechanism to consider land zoned before 1996 to ensure that there is statutory certainty for both development and environmental protection. This can only be achieved through collaboration with the planning agencies.

The Western Australian Planning Commission (WAPC) has recently released Directions 2031 and the Southern Metropolitan and Peel Sub Region Structure Plan. These planning documents are important as they identify areas where urban growth may occur in the Perth and Peel regions to accommodate Perth's growing population. This provides an opportunity to focus environmental and planning resources on these areas. Directions 2031 is underpinned by a rationale that development should be on already zoned land. Therefore, it is now essential that the extent of environmentally constrained areas within land zoned before 1996 is determined and resolved as part of these planning processes. The EPA will work closely with the WAPC to ensure that potential environmental constraints of land zoned before 1996 are identified and, similarly, will provide environmental advice about the additional new areas proposed to accommodate population growth in the Perth and Peel regions as a matter of priority.

City of Geraldton-Greenough Town Planning Scheme No. 1A Amendment 4 – Brand Highway, Cape Burney



Southgate Dune within the Amendment area (Figure can be magnified in the electronic version of this report available at www.epa.wa.gov.au)

The EPA released its Report to the Minister for Environment on the City of Geraldton-Greenough Town Planning Scheme (TPS) No. 1A Amendment 4 in May 2009 (Report 1326).

The amendment proposes the rezoning of approximately 779 ha at Cape Burney, 5 km south of Geraldton. The amendment area is bound by the Greenough River to the south and abuts the coast. It contains cleared farmland, remnant native vegetation and a large

mobile dune known as Southgate Dune. The development would require the stabilisation of Southgate Dune which is intended to be achieved through the urbanisation of Cape Burney.

The EPA decided that the key environmental factors were Coastal Processes, Foreshore Reserve and Native Vegetation. The EPA noted that the Southgate Dune is currently acting as a sediment source to the beaches north of the development, outside of the amendment area. This is a significant issue as stabilisation of the dunes, as part of the proposed development, will stop or significantly reduce this sand feed and may result in erosion of the beaches to the north. The EPA is concerned that there is a considerable variation in the estimates of the contribution of sand to littoral drift from the Southgate Dune. The Environmental Review (ER) estimates the contribution at 10 000 cubic metres per year (m^3/yr) while earlier estimates provide by the then Department for Planning and Infrastructure indicate 34 000 m^3/yr .

The Department of Planning (DoP) has advised the EPA that the coastal setback assessment completed for the ER was considered reasonable to allow for protection of the coast under current policy. However, the assessment was not undertaken in accordance with State Coastal Planning Policy (SPP) 2.6. The EPA is aware the current sea level rise figures from SPP 2.6 which were used for the foreshore reserve sea level rise predictions are under review. The EPA expects that coastal setbacks and coastal processes should have regard for alternate predictions of sea level rise in consultation with the DoP.

The potential impacts on poorly represented vegetation associations within the subject area were not adequately addressed in the ER. The removal of vegetation from the subject area through development has the potential to fragment this remnant vegetation further. It has not been demonstrated which areas of vegetation are to be retained or whether mechanisms have been established to show how these areas will be protected into the future.

In summary, although it is argued that development would address the stabilisation of the dune system, it has not been demonstrated that this would not have significant consequential impacts outside of the amendment area on coastal processes, in particular on the beaches to the north. Until such time as further information on the contribution of the Southgate Dune to coastal processes is available and there is confidence in the predictions regarding the stability of the coast and sea level rise predictions the EPA has recommended against the development of the dune system. The EPA would also expect that any subsequent amendment would address reservation of regionally significant vegetation.

The EPA has concluded that Amendment 4 to the City of Geraldton-Greenough TPS No. 1A as proposed is environmentally unacceptable as it has not been demonstrated that it can be managed to meet the EPA's objectives in relation to Coastal Processes, Foreshore Reserve and Native Vegetation and is therefore incapable of being environmentally acceptable.

SECTION 45C APPROVALS

The section 45C amendment to the *Environmental Protection Act 1986* was enacted in 2003. The amendment enables the Minister for Environment, or her delegate, the Chairman/Deputy Chairman of the EPA, to approve a change to a proposal after approval.

The EPA has published Draft Guidelines, to clarify the approvals process, for a proponent considering making a submission for a change to a proposal. These are available on the EPA website at <http://www.epa.wa.gov.au/template.asp?ID=59&area=EIA&Cat=Guidelines+%28s45C%29>. Only changes that do not have a significant detrimental effect on the environment additional to, or different from, the effect of the original proposal can be approved under s 45C of the EP Act.

For the 2008-2009 period, the EPA Chairman/Deputy Chairman approved 38 changes. The changes are recorded in an attachment to the Ministerial Statements, which are publicly available on the EPA website at <http://www.epa.wa.gov.au/template.asp?ID=69&area=EIA&Cat=Approved+changes+to+proposals+after+assessment+%28D+s45C%29> or the DEC library in the Atrium building Level 4, The Atrium, 168 St Georges Terrace, Perth; phone 6467 5226.

See Appendix 14 for all s45C approvals given during 2008-2009.

POLICY DEVELOPMENT

The EIA Review initiated in February 2008 included a review of the EPA's environmental policy settings.

A new hierarchy for EPA policies was proposed including a State Environmental Strategy (yet to be developed), Environmental Protection Policies (EPPs), State Environmental Policies (SEPs) and environmental assessment policies and guidelines. The new policy framework will guide policy development for the EPA in the future and existing position statements and guidelines will be moved to this framework over time.

Environmental Protection Policies

Environmental Protection Policies

An Environmental Protection Policy (EPP) is prepared under Part III of the *Environmental Protection Act 1986* and has "the force of law as though it had been enacted as part of this Act", on and from the day on which the policy is published in the *Western Australian Government Gazette*. The Act is binding on the Crown. Accordingly, the wider community as well as all government departments and agencies are required under law to comply with both the Act and EPPs prepared under the EP Act.

Current Environmental Protection Policies in force are shown in table 5.

Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999

In accordance with s36(1)(b) of the *Environmental Protection Act 1986*, the

EPA has deferred the commencement of the review of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* as directed by the Minister for Environment, as a result of the need to resolve buffer issues in the Kwinana area, to await the finalisation of the State Environmental (Ambient Air NEPM) Policy, and the need to undertake a consultation process regarding the inclusion or exclusion of particulates. This direction is in effect until 31 December 2009.

With the release of the State Environmental (Ambient Air NEPM) Policy in June 2009, the EPA released a Discussion Paper on options for the Kwinana EPP in June 2009. The purpose of the Discussion Paper is to invite comment on the future role of the Kwinana EPP. Submissions close in September 2009.

Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998

The EPA initiated the review of the *Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998*. The EPA released a draft *Environmental Protection (South West Agricultural Zone Wetlands) Policy 2008* and review document for public comment in December 2008. Submissions closed in March 2009 and are being considered by the EPA.

Environmental Protection (Ozone Protection) Policy 2000

The EPA has recommended to the Minister for Environment that the *Environmental Protection (Ozone Protection) Policy 2000* be revoked as

Table 4: Environmental Protection Policies in force and their status as at June 2009.

Name	Approval date	Review Date	Comment
Environmental Protection (Peel Inlet- Harvey Estuary) Policy 1992	11.12.92	11.12.99	The review will recommence upon finalisation of the Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System – Phosphorus Management (the Plan). The Plan was finalised in November 2008.
Environmental Protection (Swan Coastal Plain Lakes) Policy 1992	18.12.92	Under direction of the Minister, Section 36 (1) (a) and (aa) of the EP Act determines future reviews for this policy.	The <i>Environmental Protection (Swan Coastal Plain Lakes) Policy 1992</i> remains in force and continues to be implemented.
Environmental Protection (Gnangara Mound Crown Land) Policy 1992	24.12.92	24.12.99	Review on hold awaiting section 46 assessment to review Ministerial conditions.
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	28.10.98	28.10.05	In May 2007 the EPA initiated the review of the <i>Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998</i> . A revised policy and review report was released for public comment in December 2008. Submissions closed in March 2009 and are being considered by the EPA.
Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999	21.12.99	21.12.06	In accordance with s36(1)(b) of the EP Act the EPA has deferred the commencement of the review of the <i>Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999</i> as directed by the Minister for the Environment. This direction is in effect until 31 December 2009. A Discussion Paper was released in June 2009.
Environmental Protection (Ozone Protection) Policy 2000	17.10.00	17.10.07	The EPA recommended that the policy be revoked and the Minister agreed in April 2009.
Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002	18.02.03	18.02.10	Policy being implemented.
Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003	18.03.03	18.03.10	Policy being implemented.

the Commonwealth regulations contained in the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995* aligns with the EPP. Stakeholder consultation by the EPA confirmed that the EPP is no longer required. The Minister for Environment has considered this advice and agreed that the policy be revoked.

Policies being implemented

All EPPs and associated maps may be viewed on the EPA website at <http://www.epa.wa.gov.au/template.asp?ID=20&area=Policies&Cat=Environmental+Protection+Policies+%28EPP%29> or at the DEC's Library Resource Centre, Atrium Level 4, 168 St Georges Terrace, Perth.

State Environmental Policies

Table 5: State Environmental Policies in force and their status as at June 2009

Name	Date	Status
State Environmental (Cockburn Sound) Policy 2005	20.01.05	Policy being implemented.

Table 6: State Environmental Policies in development

Name	Status
Draft State Environmental (Ambient Air Quality NEPM) Policy	The EPA has forwarded the Draft Ambient Air SEP to the Minister for the Environment for consideration and public consultation.

A State Environmental Policy is a non-statutory Government policy position on a particular aspect of the environment. It is enabled under Part II section 17(3) of the EP Act whereby the EPA can "consider and make proposals as to the

policy to be followed in the State with regard to environmental matters".

The process for developing a State Environmental Policy is largely based on the statutory requirements for developing an EPP under Part III of the Act. A State Environmental Policy is developed in its first stages by the EPA. Following a public consultation process, a State Environmental Policy can be approved by the Minister for Environment and adopted by Cabinet on a whole-of-Government basis.

Current State Environmental Policies in force are shown in tables 4.

State Environmental (Ambient Air NEPM) Policy

The State Environmental (Ambient Air) Policy (Ambient Air SEP) will give effect to the current ambient air-related National Environment Protection Measures (NEPMs), to allow air quality that is protective of human health and well-being. To achieve this end, the Draft Ambient Air SEP outlines policy direction and specifies processes for monitoring, managing and reducing emissions of pollutants to ensure that the quality of ambient air meets the

standards and guidelines set via NEPMs and relevant State Government policies and criteria.

The Draft Ambient Air SEP has been forwarded to the Minister for Environment for consideration and

public consultation. The Minister commenced her consultation in June 2009.

Position Statements

The review of the Environmental Impact Assessment process has resulted in a name change for Position Statements, which will come into effect in 2009-2010, **'EPA Environmental Assessment Policies'**. With the Stakeholder Reference Group (see page 50 below) to be consulted as needed.

Position Statements (EPA Environmental Assessment Policies) (Available at <http://www.epa.wa.gov.au/template.asp?ID=8&area=Policies&Cat=Position+Statements>) are an important, high level policy expression by the EPA on environmental issues providing advice on the criteria and concepts that underpin the EIA process.

Appendix 9 provides a list of current Position Statements (EPA Environmental Assessment Policies).

Guidance Statements

The review of the Environmental Impact Assessment process has resulted in a name change for Guidance Statements, which will come into effect in 2009-2010, **EPA Environmental Assessment Guidelines**. With the Stakeholder Reference Group (see page 50 below) to be consulted as needed.

Guidance Statements (EPA Environmental Assessment Guidelines) provide the EPA's view on how frequently addressed environmental issues should be dealt with during

environmental impact assessment of new proposals. Based on experience gained from similar proposals each statement is designed to increase certainty for proponents and provide transparency for the wider community.

Proponents and the community should consider the advice in Guidance Statements (now EPA Environmental Assessment Guidelines) to be the best guide to the EPA's current thinking on a particular issue. The advice is not mandatory. Proponents may take a different approach to dealing with an issue if they wish, but for the EPA to find that alternative acceptable, the proponent should provide a well-reasoned argument, supported by appropriate scientific evidence. The EPA will then consider the issue on its merits on a case-by-case basis. Alternatively, if proponents demonstrate that a proposal will meet or better the requirements in the relevant Guidance Statement (now EPA Environmental Assessment Guideline), then they are likely to find that the assessment of their proposal will be simpler and faster.

There are two steps in the Guidance Statement development process. Key stakeholders are generally consulted about issues in a new Statement via a workshop or similar process. A Draft Guidance Statement (now EPA Environmental Assessment Guideline) is then agreed by the EPA and released for public comment, usually for 12 weeks, but sometimes for longer when a period of practical application is desirable. The EPA takes all comments into account during the preparation of the Final Guidance Statement (now EPA Environmental Assessment Guideline). Final Guidance Statements (EPA now Environmental Assessment Guidelines)

are subject to review every five years, or when significant new information becomes available.

Two Guidance Statements (now EPA Environmental Assessment Guidelines) were released during the year.

Environmental Offsets – Biodiversity - No. 19.

The EPA finalised the Guidance Statement in September 2008 after extensive consultation. The guidance represents the EPA's most recent views on how offsets will be considered during environmental impact assessment. It supersedes the earlier Position Statement No 9 on offsets which will be reviewed after further consideration of an "Important Environmental Assets" policy which includes 'critical assets' for offsets.

Sampling of Short Range Endemic Invertebrate Fauna for Environmental Impact Assessment in Western Australia - No. 20.

The EPA finalised and released the Guidance Statement in May 2009 after review by experts in other departments and universities together with targeted consultation with the EIA Review Stakeholder Reference Group. The Guidance represents the EPA's views on standards and methods of survey required to assist in collecting appropriate data for decision-making for the protection of WAA's short range endemic invertebrate fauna.

EPA Guidance Statements 8, 14 and 16 (Noise)

The status of three draft Guidance Statements dealing with noise is outlined below:

Guidance 8 – Environmental Noise (Draft, 2007)

This Guidance Statement deals with the requirements for assessment of proposals involving non-transport noise, and has been widely used since its release in 2007. A number of comments on the draft have been collated, and a final version is expected to be prepared once forthcoming amendments to the noise regulations are in place.

Guidance 14 – Road and Rail Transportation Noise (preliminary draft, 2000)

This document has remained as a preliminary draft, pending the development of a State Planning Policy (SPP) under the WA Planning Commission (WAPC) to address road and rail transport noise. Following adoption in May 2009 by the WAPC of SPP 5.4 Road and Rail Transport Noise and Freight Considerations for Land Use Planning, the EPA intends to prepare a revised Guidance 14 for use when assessing noise impacts from proposals that will cause an increase in traffic on an existing road or railway (and would not therefore be within the scope of the SPP).

Guidance 16 – Aircraft Noise

The EPA has identified that guidance is needed in relation to noise from Regional Airports and has indicated that

it intends to develop Guidance 16 for this purpose.

A full list of Guidance Statements and their stage of development is included in Appendix 10 (Also available at <http://www.epa.wa.gov.au/template.asp?ID=14&area=EIA&Cat=Guidance+Statements>).

Ministerial Taskforce on Sharing Environmental Assessment Knowledge

The Minister for Environment announced the appointment of a Sharing of Environmental Assessment Knowledge (SEAK) Taskforce, chaired by the EPA Chairman, Dr Paul Vogel, to develop a shared environmental knowledge system for collecting, reporting and accessing environmental information and knowledge generated through the environmental assessment process.

The Taskforce, established in May 2009, is expected to develop and make recommendations on:

- a model for delivering improved environmental data management and knowledge building that enhances assessment and approvals processes;
- a funding model that canvasses government-industry co-contribution investment; and,
- business case for implementation.

Membership of the Taskforce is:

Aust. Petroleum Production Exploration Association
Conservation Council of WA
Chamber of Minerals and Energy

Department for Environment and Conservation
Department of Mines and Petroleum
Department for Planning and Infrastructure
Department of State Development
Environmental Consultants Association
Landgate
Urban Development Institute of Australia
W.A. Land Information Systems
The Wilderness Society
WWF Australia.

2008 Asia Pacific Spatial Excellence Awards



Rod Nowrojee and Bernadette Streppel with the 2008 Asia Pacific Spatial Excellence Award (Environment)

The Environmental Analysis Section, Strategic Policy Division of the DEC won the Environment category of the 2008 Asia Pacific Spatial Excellence Awards (ASPEA) in November 2008 for the spatial information analysis and mapping work supporting the State of the Environment Report 2007.

The ASPEA were held in Canberra by the Australian Spatial Information Business Association and showcased the best projects by the Australian and Asian

Spatial Industries. The APSEA award follows the Environmental Analysis Section's win of the Western Australian Spatial Excellence Awards earlier this year.

MONITORING OF LIQUID WASTE TREATMENT FACILITY, BROOKDALE

Waste Management (WA), a corporate entity within the DEC is responsible for the Liquid Waste Treatment Facility site at Brookdale.

The EPA has responsibility for monitoring compliance with the Ministerial Conditions contained in Ministerial Statement 588 issued as a Ministerial Direction under s110 of the EP Act.

The EPA contracts an independent accredited auditor to assist the EPA monitor compliance with the Ministerial Conditions.

At the direction of the Minister for Environment the facility ceased operations on 31 December 2003.

The EPA reviewed the Detailed Site Investigation Plan as Phase 1 of the decommissioning and rehabilitation of the Brookdale Liquid Waste Treatment Facility.

The Decommissioning and Rehabilitation Plan is being prepared by Waste Management (WA) in three phases:

- a Detailed Site Investigation Plan which provides for sampling of soil and groundwater to

determine the extent, if any, of contamination of the site;

- a Site Management Plan is then required to undertake any rehabilitation of contaminated areas that may be identified from the outcomes of sampling undertaken in accordance with the approved Detailed Site Investigation Plan; and
- an ongoing Water Monitoring Plan may be required depending on the outcomes of the first two plans.

The Minister for Environment approved the Detailed Site Investigation Plan as the first phase towards decommissioning and rehabilitation of the Brookdale Liquid Waste Treatment Facility site.

Waste Management (WA) completed and referred the results of the sampling of soil and groundwater to determine the extent, if any, of contamination of the site required by the Plan.

The EPA on the advice of its independent accredited auditor (who undertook a peer review of the results of the sampling of soil and groundwater) advised Waste Management (WA) on 10 December, 2007 that some additional work was required to fulfil the requirements of the Detailed Site investigation Plan. The EPA is awaiting the completion of this additional work.

REGULATION 17 APPLICATIONS

Applications for approval to vary from the assigned noise levels under regulation 17 of the *Environmental Protection (Noise) Regulations 1997* are determined by the Minister on the EPA's

advice. This regulatory activity provides for resolution of difficult issues where compliance with the prescribed standards in the noise regulations is not practicable.

Progress milestones were achieved with the following applications:

Alcoa Wagerup refinery

Following the EPA's Report recommending that a noise regulation 17 approval be granted (Report 1215), Alcoa provided a final assessment report on the likely costs of additional noise reduction works on the existing plant in April 2008. The EPA completed its review of the report and released a proposed assessment strategy, based on noise exposure reduction, to the community for comment.

Esperance Port Authority

The EPA completed its assessment and provided its Report to the Minister (Report 1319) on the application by Esperance Port Authority for extension of its existing noise regulation 17 approval. The Minister accepted the Report and requested that an approval be drafted.

Kalgoorlie Consolidated Gold Mines – Following completion of the EPA assessment in relation to noise emissions from the Kalgoorlie Super Pit, a noise regulation 17 approval was granted by the Minister and published in the *Government Gazette*.

Talison Pty Ltd (formerly Sons of Gwalia Ltd)

Following completion of the EPA assessment in relation to noise emissions

from the Greenbushes mine, a noise regulation 17 approval was granted by the Minister and published in the *Gazette*.

Current applications where assessment is progressing:

Auswest Timbers (Pemberton mill); Horizon Power (Carnarvon Power Station); Millennium Inorganic Chemicals (Australind works); Rio Tinto (Cape Lambert iron ore operations); Rio Tinto (Dampier iron ore operations).

Applications withdrawn:

The Laminex Group (Dardanup particleboard plant).

CONSULTATION

The EPA undertakes an array of consultative processes relating to proposals being assessed. These include:

- public review of proponent documentation for proposals subject to environmental impact assessment;
- participation at public meetings held by proponents to give advice on the EIA process and to respond to questions;
- conducting EPA-initiated public meetings where there is a degree of public concern, usually after the close of the formal public review period, to provide feedback on the key environmental issues raised and to consider any other significant environmental issues the community requests the EPA to consider in its assessment of the proposal. These meetings also provide an opportunity for the

EPA to inform the community of the role of the EPA and likely timing of the EPA's advice to the Minister for Environment on a proposal and appeal rights available;

- participation at stakeholder meetings; and
- receiving briefings from stakeholder groups at meetings of the EPA on issues of importance.

SITE VISITS CARRIED OUT BY THE EPA



EPA Site Visit 4 April 2009. Cape Preston (Photo: Danielle Griffiths)

During the year, various EPA members travelled within the State to examine proposals in the field and to meet with proponents on-site.

Proponents have welcomed the opportunity to meet with the EPA to discuss issues in the less formal setting of the project site. Relevant staff from the EPA Service Unit and other Government experts accompanied the EPA. Whenever possible, EPA members took the opportunity to meet with key local stakeholders including local government, interest and conservation groups.

Site visits have proved very valuable in a number of ways:

- giving EPA members a clearer understanding of the environmental setting of a proposal;
- providing an opportunity for the EPA to meet proponents and key stakeholders, exchange views, address environmental issues associated with their proposal, and network in an informal atmosphere;
- making it easier to communicate and interact with proponents and other stakeholders through subsequent telephone interaction and formal EPA meetings;
- a more informed EPA leading to better environmental advice being provided to the Minister for Environment;
- enhancing the identity of the EPA as an Authority that provides independent advice; and
- providing an identity to an otherwise 'invisible' EPA.

A list of the EPA and other site visits is provided in Appendix 12.

STAKEHOLDER REFERENCE GROUP

The EPA established a Stakeholder Reference Group (SRG) to provide input into the Review of the Environmental Impact Assessment (EIA) Process.

On completion of the Review, the EPA agreed that the SRG should continue to meet on an 'as needs basis' to provide input to EPA on matters of policy, process and performance, including the implementation phase of the Review.

During 2008/09 the SRG considered and provided advice to the EPA on:

- Review of the EIA process;
- Revised EPA website;
- Assessment of pre-1996 zoned land;
- EPA/DMP Memoranda of Understanding;
- Application of risk based approach to EIA;
- Co-investment approaches to EIA;
- Administrative Procedures;
- Annual audit compliance reporting; and,
- Parallel processing.

More information on the SRG is available at <http://www.epa.wa.gov.au/eiareview.asp>

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APPENDICES

APPENDIX 1: Environmental Review and Management Programme (ERMP) and Public Environmental Review (PER) Reports

Report No.	Title	Release date
1294	40MW Biomass Power Plant, Manjimup	7/7/08
1295	Yannarie Solar Salt East Coast of Exmouth Gulf (ERMP)	21/7/08
1302	Southern Seawater Desalination Project	29/9/08
1303	1,000 Tonnes Per Year Production Of Barramundi In Cone Bay, Shire Of Derby-West Kimberley	17/11/08
1307	Devil Creek Development Project	5/1/09
1308	Tutunup South Mineral Sands Project	5/1/09
1311	Utah Point Berth Project (Stage B)	12/1/09
1321	Karara Iron Ore Project	28/4/09
1322	Mungada Iron Ore Project	28/4/09
1323	Gorgon Gas Development Revised and Expanded Proposal: Barrow Island Nature Reserve	28/4/09
1328	Koolanooka/Blue Hills Direct Shipping Ore Mining Project	1/6/09
1330	Fremantle Port Inner Harbour and Channel Deepening, Reclamation at Rous Head and Offshore Placement of Dredged Material	15/6/09

APPENDIX 2: Environmental Protection Statement (EPS) and Assessment on Referral Information (ARI) Reports

Report No.	Title	Release date
1296	Extension Hill Hematite Haulage	21/7/08
1299	Cooljarloo Mine - Falcon Extension	11/8/08
1301	Albany Protected Harbour Development, Princess Royal Harbour, Albany	8/9/08
1304	Koolyanobbing Iron Ore – W2 pit – mining below the groundwater table	17/11/08
1305	Dredging at Finucane Island, BHP Billiton RGP5 Project, Port Hedland	17/11/08
1309	Balla Balla Magnetite Project	5/1/09
1310	Western Extension to Dardanup Mineral Sands Project to Include the Burekup Mineral Sands Deposit	5/1/09
1317	Silicon Project, Kemerton and Mine at Moora – Addition of a Fourth Submerged Arc Furnace at the Kemerton Smelter	27/3/09
1325	Western Turner Syncline-Section 10 Iron Ore Mine	11/5/09

APPENDIX 3: Proposal Unlikely to be Environmentally Acceptable (PUEA) Reports

Report No	Title	Release Date
1313	Granite Extraction, Lot 2036 Bird Road, Torbay	1/2/09

APPENDIX 4: Strategic Environmental Assessment Report

Report No	Title	Release Date
1318	Sussex Location 413 Yallingup-Smiths Beach Development Guide Plan.	20/4/09

APPENDIX 5: Section 16 Strategic Advice Reports

Report No	Project Title	Release date
1306	Kimberley LNG Precinct	19/12/08
1329	Advice on Conservation Values and Review of Nature Reserve Proposals in the Lake Cronin Region	2/6/09

APPENDIX 6: Section 46 Reports

Report No.	Title	Release date
1297	Austral Bricks (Previously Prestige Brick) Brickworks at Midland – Proposal Under S46 of the EP Act to Change Conditions and Commitments of Statements 002 and 012	4/8/08
1298	Brick and Tile Works, Malaga – Proposal Under S46 of the EP Act to Change Conditions and Commitments of Statements 003 and 352	4/8/08
1300	Jack Hills Iron Ore Mine Project, Shire of Meekatharra, Murchison Region	18/8/08
1314	Magellan Lead Carbonate Project, Wiluna – Containerised Lead Carbonate Exports Through the Port of Fremantle. Additional advice on environmental conditions	2/2/09
1315	Sand Excavation Lot 242 Corio Road Pinjarra	9/2/09
1320	Pardoo direct shipping iron ore project – proposal under s46 of the EP Act to remove condition 8-1 related to troglofauna sampling	28/4/09
1324	Gnangara Mound Groundwater Resources-Change to Environmental Conditions	4/5/09
1327	Perth Metropolitan Desalination Proposal – Water Quality Management, Change to Implementation Conditions	25/5/09
1331	Bluewaters Power Station – Proposal under S46 of the EP Act to Remove Environmental Management Commitment 7.2	29/6/09
1332	Bluewaters Power Station Phase II – Proposal under S46	29/6/09

Report No.	Title	Release date
	of the EP Act to Remove Environmental Management Commitment 7.2	

APPENDIX 7: Section 48A Reports

Report No.	Subject	Release date
1316	Shire of Waroona Town Planning Scheme No. 7 Amendments 4 and 17 – Lots 1 and 3 Southern Estuary Road, Lake Clifton	23/3/09
1326	City of Geraldton-Greenough Town Planning Scheme No. 1A Amendment 4 – Brand Highway, Cape Burney	25/5/09

APPENDIX 8: Regulation 17 Variation Reports

Report No	Project Title	Release Date
1312	Environmental Protection Authority (EPA) Report On The Application By Talison Greenbushes Pty Ltd For A Noise Variation Under Noise Regulation 17	19/1/09
1319	Port of Esperance Noise Regulation 17 Variation	20/4/09

APPENDIX 9: Position Statements (For information - none completed 08/09) (Renamed EPA Environmental Assessment Policies from 6/09 on)

No.	Position Statement
1.	Environmental Protection of Cape Range Province
2.	Environmental Protection of Native Vegetation in Western Australia
3.	Terrestrial Biological Surveys as an element of Biodiversity Protections
4.	Environmental Protection of Wetlands
5.	Environmental Protection and Sustainability of the Rangelands in Western Australia
6.	Towards Sustainability
7.	Principles of Environmental Protection
8.	Environmental Protection in Natural Resource Management
9.	Environmental Offsets

**APPENDIX 10: Guidance Statements for the Assessment of
Environmental Factors (Number 19 & 20 completed
08/09) (renamed EPA Environmental Assessment Guidelines from
07/09 on)**

Final Guidance

No	Title
1	Protection of Tropical Arid Zone Mangroves along the Pilbara Coastline
2	Risk Assessment and Management: Offsite Individual Risk from Hazardous Industrial Plant
3	Separation Distances between Industrial and Sensitive Land Uses
4	Deep and Shallow Well Injection for Disposal of Industrial Waste
6	Rehabilitation of Terrestrial Ecosystems
7	Protection of Western Swamp Tortoise Habitat, Uppers Swan/Bullsbrook
10	Level of Assessment for proposals affecting natural areas within the System 6 Region and Swan Coastal Plain portion of the System 1 Region
12	Minimising Greenhouse Gases
13	Management of Air Emissions from Biomedical Waste Incinerators
15	Emissions of Oxides of Nitrogen from Gas Turbines
17	A Site Remediation Hierarchy for Contaminated Soil
18	Prevention of Air Quality Impacts from Land Development Sites
19	Environmental Offsets - Biodiversity
20	Short Range Endemic Invertebrate Fauna
28	Protection of the Lake Clifton Catchment
29	Benthic Primary Producer Habitat Protection for Western Australia's Marine Environment
33	Environmental Guidance for Planning and Development
34	Linkage between EPA Assessment and Management Strategies, Policies, Scientific Criteria, Guidelines, Standards and Measures Adopted by National Councils
40	Management of Mosquitoes by Land Developers
41	Assessment of Aboriginal Heritage
49	Assessment of Development Proposals in Shark Bay World Heritage Property
51	Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia
54	Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia
55	Implementing Best Practice in Proposals Submitted to the Environmental Impact Assessment Process
56	Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia

Draft Guidance

No	Title
8	Environmental Noise
47	Interim Guidance on Odour as a Relevant Environmental Factor
48	Groundwater Environmental Management Areas
54a	Sampling Methods for Subterranean Fauna – Addendum to Guidance 54

APPENDIX 11: Environmental Protection Bulletins

Bulletin No	Project Title	Release Date
1	Environmental Offsets – Biodiversity	1/9/08
2	Port Hedland Noise and Dust	12/1/09
3	EIA Review-Interim Assessment Procedures	10/3/09
4	Strategic Advice-Dawesville to Binningup	4/5/09
5	Deep Drainage in the Wheatbelt	26/6/09

APPENDIX 12: EPA site visits

Date	Site (Proposed Developments)
2-4 July, 2008	LNG Hub site Options, Kimberley
19 November, 2008	Binningup land Development
11 February, 2009	Fremantle Outer Harbour proposal and Inner Harbour Dredging proposal
11-12 March, 2009	Dawesville to Binningup-Discussions re proposed strategic advice of land use planning in the region
1-2 April, 2009	Various iron ore proposals, Cape Preston
27 May, 2009	Roe Highway Stage 7
3-4 June, 2009	Happy Valley Mineral Sands Mine proposal, Tutunup Mineral Sands Mine proposal and Perth to Bunbury Highway

APPENDIX 13: Attendance at EPA Meetings

Attendance EPA Meetings – 1 July 2008 to 30 June 2009		
Name	No of Meetings Held	No of Meetings Attended
Dr P Vogel	24	22
Dr A Hinwood	24	22
Mr D Glennon	24	19
Ms J Payne	24	24
Dr C Whitaker	24	21

APPENDIX 14: Section 45C list of approved changes to proposals

Statement No	Proposal Title	Variation	Approval date
646	Pinjarra Refinery Efficiency Upgrade, Pinjarra; Alcoa World Alumina Australia	Increase in refinery outputs - atmospheric emissions - NO _x	01-Jul-08
719	Worsley Alumina – production to maximum capacity of 4.4 mtpa, alumina and associated mining; Worsley Alumina Pty Ltd	Clear 16.5 hectares of State forest to expand freshwater lake at the bauxite refinery	25-Jul-08
756	Mesa A / Warrambo Iron Ore Project, 43 km West of Pannawonica, Shire of Ashburton; Robe River Mining Co Pty Ltd	Redesign of Mesa A Escarpment breakthrough for Plant Haul Road	25-Jul-08
690	Pilbara Iron Ore & Infrastructure Project: Port and North-south Railway (Stage A); Fortescue Metals Group Limited	Construction of two additional train unloaders	07-Aug-08
685,724	Bluewaters power station , Phase I and Phase II, Collie; Griffin Power Pty Ltd	Increase to ancillary infrastructure area	12-Aug-08
753	Mt Gibson Iron Ore Mine and Infrastructure Project, Shire of Yalgoo; Mt Gibson Mining Limited and Extension Hill Pty Ltd	Changes to mine layout	26-Aug-08
645	Kemerton Power Station, Kemerton; Transfield Services Kemerton Pty Ltd	Increase in time of operation of the power station on liquid fuel from 100 hours/year to 600 hours/year for the 2008-2009 financial year only	05-Sep-08
150	Eglinton Beach Resort; Eglinton Estates Pty Ltd	Modification of the marina design – change to the marina breakwater; causeway breakwater; and enclosed waterbodies	05-Sep-08
679	Marillana Creek (Yandi) Life-of-Mine proposal mining leases 270SA & 47/292, 90 km North-West of Newman, Shire of East Pilbara; BHP Billiton Iron Ore Pty Ltd	Increase the mining rate to 87 Million tonnes per annum	16-Sep-08

Statement No	Proposal Title	Variation	Approval date
717	Brockman Syncline 4 Iron Ore Project 60 km West-north-west of Tom Price, Shire of Asburton; Hamersley Iron Pty Ltd	Change the route of the power line at its southern end to follow the Boolgeeda Valley; change the power line capacity to 25 MW, operating at 33kV	22-Sep-08
707	Pilbara Iron Ore & Infrastructure Project: East-west Railway & Mine Sites (Stage B); Fortescue Metals Group Ltd	Re-alignment of the rail, increase in the Rail Investigation Area and increase in rail length from 111 kilometres to 119 kilometres	03-Oct-08
627	Koolyanobbing Iron Ore Expansion, Windarling Range and Mt Jackson, Shire of Yilgarn; Portman Iron Ore Limited	Increase ore production from 8 million tonnes per annum to 8.8 million tonnes per annum	07-Oct-08
759	330 MW Gas-fired Power Station, Neerabup; NewGen Neerabup Pty Ltd	Allow disturbance outside 20m lateral easement – alteration of pipeline route along edge of Bush Forever Site 451	10-Oct-08
717	Brockman Syncline 4 Iron Ore Project 60 km West-north-west of Tom Price, Shire of Asburton; Hamersley Iron Pty Ltd	Increase in throughput from 22 to 42 megatonnes per year and various associated changes	04-Nov-08
685,724 + 380	Bluewaters power station , Phase I and Phase II, Collie; Ewington Open Cut Coal Mine, Collie; Griffin Power Pty Ltd	Disposal of fly ash into Ewington I and Ewington II mine voids	07-Nov-08
771	Port Facility Upgrade – Anderson Point, Port Hedland: Dredging and Wharf Construction – Third Berth; Fortescue Metals Group Ltd	Increase volume of material to be dredged; change timing and duration of dredging; increase area of marine disturbance; increase settlement area on land; increase height of bunds around spoil dumps	14-Nov-08
681	Esperance Port – upgrading of marine facilities and increase in iron ore export through the port to 8 million tonnes per annum; Esperance Port Authority	Increase iron ore exports from 8 million tonnes per annum to 8.8 million tonnes per annum	18-Nov-08
572	Ocean Outlet for Treated Wastewater, Bunbury Wastewater Treatment Plant; Water Corporation	Increase in nitrogen load limit from 60 tonnes of total nitrogen per annum to 70 tonnes of total nitrogen per annum 2008/09	18-Nov-08

Statement No	Proposal Title	Variation	Approval date
645	Kemerton Power Station, Kemerton; Transfield Services Kemerton Pty Ltd	Increase in time of operation of the power station from 1,000 hours per year to 2,000 hours per year	09-Dec-08
633	Ravensthorpe Nickel Project, Bandalup Hill; Ravensthorpe Nickel Operations Pty Ltd	Increase the maximum allowable area of the evaporation pond from 250 hectares to 391 hectares	22-Dec-08
719	Worsley Alumina – production to maximum capacity of 4.4 mtpa, alumina and associated mining; Worsley Alumina Pty Ltd	Install an additional secondary crushing plant adjacent to the existing crushing facilities at Saddleback	23-Jan-09
559	Magellan Lead Carbonate Project, Wiluna; Magellan Metals Pty Ltd	Change to transport arrangements	27-Jan-09
514	West Angelas Iron Ore Project; Rio Tinto Iron Ore	Change to the rail alignment along Hamersley Flats	13-Feb-08
635	Iron Ore Mine Downstream Processing (Direct-Reduced & Hot-Briquetted Iron) and Port Construction Cape Preston Pilbara; Mineralogy Pty Ltd	Changes in project layout and certain increases in infrastructure "footprint", including relocation of the accommodation village and construction camps, desalination plant, services corridor route, gas pipeline route, waste dumps, tailings dam, port stockpiles, and expansion of the services corridor and use of a buried slurry pipeline in place of conveyor	13-Feb-09
773	Windimurra Vanadium Project: Land Clearing & Mining below the base of weathering, 80 kilometres South-east of Mount Magnet; Midwest Vanadium Pty Ltd	Revised land clearing requirements	24-Feb-09
715	Koolan Island iron ore mine and port facility, Shire of Derby – West Kimberley; Mount Gibson Iron Limited	Expand disturbance area from 540 to 590 hectares	04-Mar-09
695	Yandicoogina Junction South-east Mine, Mining Lease 274SA, Shire of East Pilbara; Hamersley Iron Pty Ltd	Remove the detailed breakdown of the disturbance area	04-Mar-09

Statement No	Proposal Title	Variation	Approval date
599	Long Term Shellsand Dredging, Owen Anchorage; Cockburn Cement Limited	Clarification of operational tolerances of approved dredging	11-Mar-09
494	Medium-term Shellsand Dredging, Success Bank, Owen Anchorage; Cockburn Cement Limited	Change of approved dredge	11-Mar-09
490	Industrial Infrastructure and Harbour Development, Jervoise Bay; Department of State Development	Change to construction of wharf infrastructure and associated dredging	16-Mar-09
635	Iron Ore Mine Downstream Processing (Direct-Reduced & Hot-Briquetted Iron) and Port Construction Cape Preston Pilbara; Mineralogy Pty Ltd	Relocation of proposed pellet plant from its original location near the project minesite to the project port on Cape Preston	18-Mar-09
781	Dredging at Finucane Island, BHP Billiton RGP5 Project, Port Hedland; BHP Billiton Iron Ore Pty Ltd	Alternative access to remove mangroves	30-Mar-09
718	Gwindinup mineral sands mine, Shire of Capel; Cable Sands (WA) Pty Ltd	Clear an additional 4.3 hectares of native vegetation, increase the mine footprint, increase the amount of ore mined and change the mining period	8-Apr-09
695	Yandicoogina Junction South-east Mine, Mining Lease 274SA, Shire of East Pilbara; Hamersley Iron Pty Ltd	Remove the detailed breakdown of the disturbance area	04-Mar-09
599	Long Term Shellsand Dredging, Owen Anchorage; Cockburn Cement Limited	Clarification of operational tolerances of approved dredging	11-Mar-09
494	Medium-term Shellsand Dredging, Success Bank, Owen Anchorage; Cockburn Cement Limited	Change of approved dredge	11-Mar-09
490	Industrial Infrastructure and Harbour Development, Jervoise Bay; Department of State Development	Change to construction of wharf infrastructure and associated dredging	16-Mar-09

Statement No	Proposal Title	Variation	Approval date
635	Iron Ore Mine Downstream Processing (Direct-Reduced & Hot-Briquetted Iron) and Port Construction Cape Preston Pilbara; Mineralogy Pty Ltd	Relocation of proposed pellet plant from its original location near the project minesite to the project port on Cape Preston	18-Mar-09
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718	Gwindinup mineral sands mine, Shire of Capel; Cable Sands (WA) Pty Ltd	Clear an additional 4.3 hectares of native vegetation, increase the mine footprint, increase the amount of ore mined and change the mining period	8-Apr-09

APPENDIX 15: Financial Report

The administration costs of the EPA are as follows:

	2008-09 (\$'000)	2007-08 (\$'000)	2006-07 (\$'000)	2005-06 (\$'000)	2004-05 (\$'000)
Recurrent					
Salaries and allowances	910	778	659	591	577
Other Expenses					
Advertising expenses	29	23	25	41	66
Staff related expenses	38	140*	38	13	19
Communications	41	10	8	6	9
Services and contracts	156***	106**	17	27	17
Consumable supplies	26	27	26	3	6
Repairs, Maintenance and Depreciation	6	0	0	0	1
Total	1,206	1,084	773	681	695

Foot Notes:

* Cost increase due to EPA Board appointments and site visits to remote developments within Western Australia.

** Increase in costs resulting from initiation of review of the environmental impact assessment process.

*** Increase in costs resulting from the review of the environmental impact assessment process and upgrade of the EPA website

Electoral Act 1907 (s175 ZE Disclosure)

In accordance with Section 175 ZE of the *Electoral Act 1907*, the Environmental Protection Authority incurred the following expenditure in advertising, market research, polling, direct mail and media advertising:

1. Total expenditure for 2007/2008 was \$23 000 (2006/07 – \$25 212).
2. Expenditure of specified amounts of \$1 600 or greater in the following areas:

Advertising Agencies	Nil
Market research organisations	Nil
Polling organisations	Nil
Direct mail organisations	Nil
Media advertising organisations	Nil

Note:

Section 175 ZE of the *Electoral Act 1907* requires “specified amounts” of \$1 600 or greater expended on advertising in the above categories to be notified in the annual report.

Occupational Safety and Health performance and policies are included in the DEC annual report as the EPA is serviced by the DEC.

APPENDIX 16: Abbreviations

ACMER	Australian Centre for Minerals Extension and Research
AHC	Australian Heritage Council
ARI	Assessment on Referral Information
BIF	Banded Ironstone Formation
CALM	Department of Conservation and Land Management
CAMBA	China Australia Migratory Bird Agreement
CCWA	Conservation Commission of Western Australia
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEC	Department of Environment and Conservation
DoA	Department of Agriculture
DoF	Department of Fisheries
DoH	Department of Health
DoW	Department of Water
DIA	Department of Indigenous Affairs
DoIR	Department of Industry and Resources
DMP	Department of Minerals and Petroleum
DPI	Department for Planning and Infrastructure
DSD	Department of State Development
CITES	Convention on International Trade of Endangered Species
EIA	Environmental Impact Assessment

EIS	Environmental Impact Statement
EMIAA	Environmental Management Industry Association of Australia
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act (1986)</i>
EPBC Act	<i>Commonwealth Environmental Protection and Biodiversity Conservation Act (1999)</i>
EPASU	EPA Service Unit
EPP	Environmental Protection Policy
EPS	Environmental Protection Statement
EQC	Environmental Quality Criteria
EQO	Environmental Quality Objectives
ERMP	Environmental Review and Management Programme
EV	Environmental Values
FMP	Forest Management Plan
GBRS	Greater Bunbury Region Scheme
HRA	Health Risk Assessment
JAMBA	Japan Australia Migratory Bird Agreement
LoA	Level of Assessment
MoU	Memorandum of Understanding
MPRA	Marine Parks and Reserves Authority
MRWA	Main Roads Western Australia
NAP	National Action Plan
NDT	Northern Development Taskforce
NEPC	National Environmental Protection Council
NEPM	National Environment Protection Measure
NHT	Natural Heritage Trust
NWQMS	National Water Quality Management Strategy
NRM	Natural Resource Management
PER	Public Environmental Review
PUEA	Proposal Unlikely to be Environmentally Acceptable
RO	Reverse Osmosis
SCP	Swan Coastal Plain
SEP	State Environmental Policy
SoE	State of the Environment
SOER	State of Environment Reporting
SRG	Stakeholder Reference Group
SRT	Swan River Trust
UCL	Unallocated Crown Land
UNEP	United Nations Environment Program
UNESCO	United Nations Education Scientific and Cultural Organisation
VOC	Volatile Organic Compound
WA	Western Australia
WALA	Western Australian Land Authority
WALGA	Western Australian Local Government Association
WAPC	Western Australian Planning Commission
WMWA	Waste Management WA
WRC	Water and Rivers Commission
WWF	World Wildlife Fund
