Perth and Peel Green Growth Plan for 3.5 million

Strategic Assessment of the Perth and Peel Regions

Draft EPBC Act Strategic Impact Assessment Report

Part E: ESD and managing risk

December 2015
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Part E: ESD and managing risk

23 Promoting ecologically sustainable development

The Western Australian Government has recognised that the historic forms of growth for Perth are not sustainable into the future (WAPC 2015) and that it is critical for current planning processes to incorporate the principles of ecologically sustainable development (ESD).

Australia’s National Strategy for Ecologically Sustainable Development (1992) defines ecologically sustainable development as: "using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased" (COAG 1992).

This Chapter discusses how ESD has informed development of the Strategic Conservation Plan and in particular the balance between development through the classes of action and biodiversity benefits through conservation commitments and the conservation program. It outlines:

- The overall need and justification for the Strategic Conservation Plan.
- How the principles of ESD were incorporated into the planning processes, including:
  - general background;
  - consideration of alternatives;
  - discussion of the EPBC Act principles of ESD; and
  - an overview of the mechanisms and strategies that will be applied to achieve ESD.

23.1 PROJECT NEED AND JUSTIFICATION

23.1.1 Context

The preparation of the Strategic Conservation Plan has been driven by the Western Australian Government plans for future development of the Perth and Peel regions to support population growth exceeding 3.5 million by 2050. The Perth and Peel@3.5 million strategy recognises a range of interconnected challenges for sustainable development alongside the significant social and economic opportunities associated with this growth.

The key challenges faced by the region include (WAPC 2015):

- Managing significant population growth where a business-as-usual approach will not adequately provide the accommodation, services and infrastructure to support the influx of new residents.
- Increasing gross urban zone dwelling densities to allow for additional residential and employment demands.
• Achieving a connected city growth pattern to manage urban sprawl and better connect existing activity centres, jobs and homes.
• Increasing housing diversity and affordability.
• Achieving efficient use of water resources in a drying climate.
• Ensuring the regions’ environmental assets are protected under increasing development pressure.
• Maintaining liveability, amenity and quality of life in the face of population growth, demographic change and development.

The long planning timeframes associated with *Perth and Peel* and the sub-regional planning frameworks allow the Western Australian Government to address these challenges through ecologically sustainable development. A business-as-usual approach will not deliver acceptable development outcomes. Sustainable growth requires a shift in thinking and a dynamic approach to key challenges (WAPC 2015).

The Strategic Conservation Plan and the Strategic Assessment of the Perth and Peel Regions will address these issues. They take a long-term, landscape scale view of planning for development and conservation. As outlined in the Strategic Conservation Plan, the process aims to:

"...provide superior conservation outcomes and increased certainty for development (compared with project by project assessment). The identification of conservation outcomes at a strategic scale for both State and Commonwealth environmental matters enables a well-designed conservation network to be expanded upon and secured. The strategic assessment also delivers streamlined assessment processes and reduced costs associated with land and housing supply."

### 23.1.2 Cost benefit

Strategic assessments can provide significant cost savings compared with standard project by project assessments. The Australian Government commissioned a general cost benefit analysis of strategic assessments in 2011 (Access Economics 2011).

The Access Economics report examined two options over a 30 year period (2010-11 to 2039-40):
• the base case (business as usual) scenario of continuation of project by project assessments; compared to
• the alternative scenario of replacing project by project assessments with strategic assessments.

They looked at the seven strategic assessments that were current at that time. This included related urban expansion assessments such as the Western Sydney Growth Centres and the Melbourne Urban Growth expansion.

The key findings of the report included:
• The Australian Government experiences net benefits (overall) of $4.5 million across the seven programs.
• State Governments experience net costs across the seven programs, but the total cost across all jurisdictions was estimated at only $0.57 million. It was also noted that the analysis did not take
account of potential second round gains for States, who would benefit from higher tax revenues collected as a result of the gains to businesses in their jurisdictions.

- The private sector/developers/proponents are strong beneficiaries who realise an estimated $5.92 billion in savings over the seven programs. This reflected the commercial benefits from reducing uncertainty, risk and delays.

Access Economics concluded that (irrespective of the parameters in the analysis) strategic assessments provided a range of benefits and major gains for the private sector, including greater certainty for business.

### 23.2 PLANNING FOR ESD

#### 23.2.1 Background

The Western Australian Government has formally supported the concept of sustainability for over a decade, as set out in the *Western Australian Sustainability Strategy* (Government of Western Australia 2003).

The concept of sustainability is also supported at the highest level through the *State Planning Policy No.1 State Planning Framework* (SPP No. 1) and through other key pieces of legislation and policies listed in Table 23-1. These underpin the development of the Strategic Conservation Plan and provide a context for evaluating the implications of the development and conservation approaches discussed in the strategic assessment.

**Table 23-1: Western Australian legislation and policy that provides the context for ESD**

<table>
<thead>
<tr>
<th>Legislation or Policy</th>
<th>How ESD is integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Development Act 2005 (P&amp;D Act)</strong></td>
<td>The P&amp;D Act includes the purpose of promoting the sustainable use and development of land in the State. It also brings into effect State Planning Policies and will be central to enabling urban, industrial and rural residential development (and many of the conservation commitments). For infrastructure and BRM the P&amp;D Act would be used in implementing commitments through appropriate land reservation under the Metropolitan and Peel Region Schemes. A more detailed description of how the Strategic Conservation Plan will be integrated into the planning framework is contained in Chapter 5 of the Strategic Conservation Plan and the relevant Action Plans.</td>
</tr>
<tr>
<td><strong>State Planning Policy No.1 State Planning Framework (SPP No. 1)</strong></td>
<td>This SPP unites existing State and regional policies, strategies and guidelines within a central framework. Similarly to the P&amp;D Act, SPP No. 1 states that the primary aim of planning is to provide for sustainable land use and development of land. It sets out key principles relating to environment, community, economy, infrastructure and regional development which guide the way in which future planning decisions are made.</td>
</tr>
</tbody>
</table>
## Legislation or Policy

<table>
<thead>
<tr>
<th>Legislation or Policy</th>
<th>How ESD is integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPP No. 2 Environmental and Nature Resources Policy</td>
<td>This is applied at a strategic planning level in the Perth and Peel regions. The objectives of SPP No. 2 are to integrate environmental and natural resource management with broader land use planning and decision making; to protect, conserve and enhance the natural environment; and to promote the sustainable use of natural resources.</td>
</tr>
<tr>
<td>SPP No. 3 Urban Growth Settlement</td>
<td>This is applied at a strategic planning level in the Perth and Peel regions. The overall aim of SPP No. 3 is to facilitate sustainable patterns of urban growth and settlement by setting out requirements of sustainable settlements and communities as well as the policy required to accommodate growth and change.</td>
</tr>
<tr>
<td>Environmental Protection Act 1986</td>
<td>The object of the EP Act is to protect the environment having regard to principles that are generally associated with sustainable development. These include the precautionary principle, the principle of intergenerational equity, the principle of conservation and ecological integrity, principles relating to improved valuation, pricing and incentive mechanisms, and principles of waste minimisation. The requirements of the EP Act are a driver in the development of the Strategic Conservation Plan.</td>
</tr>
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</table>

### 23.2.2 Alternatives

A range of alternatives have been considered in the planning process for the Strategic Conservation Plan. These include:

- continuing with project by project assessments without undertaking a strategic assessment; as well as
- a detailed process around the planning of the future urban form and footprint of the city that considered a number of different scenarios.

**Continuing project by project assessments**

Project by project assessments are likely to have much greater long-term financial costs compared to a strategic assessment (as discussed in Section 23.1.2). The greatest additional costs fall on the private sector and follow from reduced certainty and increased holding times.

A strategic assessment also offers a range of opportunities that will not be realised through project by project assessments, including:

- the ability to incorporate the principles of ESD at a landscape scale in relation to both the urban form and environmental protection;
- the opportunity for whole of government coordination around critical issues such as infrastructure co-location;
- an increased capacity to understand and address cumulative environmental impacts across the Perth and Peel regions; and
the ability to define landscape scale conservation outcomes including the application of offsets.

The additional costs and missed opportunities associated with continuing the project by project assessment approach are substantial. This was not considered a viable alternative.

**Alternative urban forms and footprints**

The planning process that led to the Strategic Conservation Plan considered both the overall urban form of the city as well as the footprints that could give effect to that form.

**Urban form**

The Perth and Peel region has evolved from having a relatively compact and contained urban form centred on the Swan River in 1970, into a sprawling elongated city in 2015.

Directions 2031 advocated the benefits of a more compact and environmentally sustainable city whilst using land and infrastructure in an efficient manner for a medium-term planning horizon (approximately 20 years). It also identified the need for an urban expansion program to strategically plan for the land and housing supply needs of long-term residential growth with a particular focus on how the planning system could accommodate a city of 3.5 million people.

Directions 2031 and subsequently Perth and Peel@3.5 million canvassed the broad growth options for a substantially increased population. The three growth options were:

- Contained City.
- Dispersed City.
- Connected City.

The options varied in the degree to which infill and new greenfill development is employed to accommodate expected population growth.

Under a 'contained city' growth would be limited to the existing urban footprint through infill development, with no new greenfield development. The 'dispersed city' growth pattern would allow for continued urban sprawl through new greenfield development, with limited infill. The 'connected city' growth option represents a balance between the two extremes, with substantial infill and targeted greenfield development on the fringes and an emphasis on connected activity centres.

The dispersed city growth option of continuing urban sprawl was not preferred as it would result in the largest additional disturbance footprint (and impacts on rural land and natural environments), have lowest transport efficiency and place the greatest demands on basic raw materials.

While avoiding additional disturbance footprint, the constrained growth option was not preferred as the housing diversity and choice that can be attained on the fringes of the city could not be provided and the scale of infill required to support new housing and business growth would have the biggest impact on the character of existing suburban areas.

The connected city growth option was identified as the preferred future growth pattern because it provides the best balance between urban infill and fringe development. New opportunities for housing diversity and choice on the fringes of the city can be provided and targeted infill can be employed at a scale where changes to the character of existing suburban areas are manageable. While some environmental benefits are not as great as the contained city growth option (relying only on infill),
additional 'upfront' avoidance measures (outlined in Chapter 9) and further mitigation (outlined in Chapters 9, 10 and 11) function to provide an overall positive environmental benefit and a clearly superior outcome to business as usual (dispersed city growth option).

Footprints (EIA 1 to EIA 3)

Following the release of Directions 2031 and the draft central and outer metropolitan sub-regional strategies 2010, creation of an urban footprint for a city of 3.5 million people was undertaken through a sequence of planning processes, urban values modelling and multi-criteria analyses.

A footprint reflecting the dispersed city growth option provided a starting point and was successively refined by strategically employing infill and other land allocation options so as to shift towards the preferred connected city growth option. At each successive refinement, analysis of future dwelling supply was conducted to evaluate the capability of the footprint to deliver the required housing supply for 3.5 million people. Key milestones in this process were termed EIA 1, EIA 2 and EIA 3.

EIA 1

The first draft footprint (EIA 1) for a city of 3.5 million residents included extensive urban expansion areas, with 66% of new dwellings in urban expansion precincts over 25,696 ha, and 34% of new dwellings in infill.

This footprint was compared against the three urban forms and was found to be similar to the dispersed city scenario. Environmental evaluation of the proposed footprint determined that it was incompatible with the environmental and sustainability aspirations expressed in Directions 2031.

EIA 2

The next iteration of the planning process (EIA 2) applied a valuation system to undeveloped land and extended the existing urban form of the Perth and Peel regions to proposed urban development precincts. This increased the quantity of urban infill and identified and prioritised urban expansion precincts that would support medium to high-density dwellings to promote a compact and connected urban form.

This resulted in a 33% reduction in urban expansion precincts and reduced the footprint of proposed urban expansion to 15,505 ha. Cost-benefit analysis supported the move to a more connected and compact urban form.

EIA 3

The final iteration of the planning process (EIA 3) was based on more detailed planning within the urban and industrial expansion footprints. This identified potential impacts on flora and fauna and resulted in avoidance of over 4,000 ha of environmentally valuable habitat.

The overall urban footprint reduced to 11,121 ha, with a balance of 47% of new dwellings in infill areas, and 53% in greenfield expansion precincts. EIA 3 was deemed to provide the connected urban form identified as the most desirable option in Directions 2031. This iteration formed the basis of the Strategic Assessment for the Perth and Peel Regions.
23.2.3 Principles of ESD

The principles of the ESD are incorporated into the EPBC Act (Section 3A). They are:

a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;

b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

c) the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;

d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; and

e) improved valuation, pricing and incentive mechanisms should be promoted.

An overview of how the mechanisms in the Strategic Conservation Plan address these principles is provided in Table 23-2. Section 23.2.4 provides more detail about the mechanisms and strategies that will be applied to achieve ESD.

23.2.4 Mechanisms that achieve ESD

There are three key mechanisms that will deliver ecologically sustainable development in the Perth and Peel regions:

1. The planning frameworks underpinning Directions 2031 and beyond and Perth and Peel@3.5 million.
2. The Strategic Assessment for the Perth and Peel Regions.
3. The ongoing approval process for the classes of action established under the Strategic Conservation Plan.

Each of these mechanisms contains elements that deliver a range of ESD principles. These are summarised in Table 23-2 and discussed in detail below.

Table 23-2: Mechanisms to achieve ESD in the Strategic Assessment Area

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Principle (a)</th>
<th>Principle (b)</th>
<th>Principle (c)</th>
<th>Principle (d)</th>
<th>Principle (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning in the Perth and Peel regions</td>
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<tr>
<td>• Design of the classes of action</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>• Recognising sustainability outcomes in the Urban Values Atlas</td>
<td></td>
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<td>X</td>
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<tr>
<td>• Integrated infrastructure planning</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>• BRM policy reform</td>
<td>X</td>
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### The Strategic Assessment for the Perth and Peel Regions

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Principle (a)</th>
<th>Principle (b)</th>
<th>Principle (c)</th>
<th>Principle (d)</th>
<th>Principle (e)</th>
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</thead>
<tbody>
<tr>
<td>Strategic Environmental Impact Assessment process</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Streamlining environmental approvals</td>
<td>X</td>
<td></td>
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<tr>
<td>Impact avoidance</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Environmental protection, offsets and conservation commitments</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Strategic approach to key environmental issues in the Perth and Peel regions</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Climate change mitigation and adaptation</td>
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<tr>
<td>A proposed funding mechanism</td>
<td>X</td>
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<tr>
<td>Monitoring, adaptive management and the assurance framework</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>The ongoing approvals process</td>
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**Planning in the Perth and Peel regions**

**Design of the classes of action**

The final development footprints designed through *Directions 2031* and *Perth and Peel@3.5 million* will provide a sustainable urban form for the Perth and Peel regions in the long term. This urban form is discussed in Chapter 2.2 of the Strategic Conservation Plan and will support a ‘connected city’ that promotes a balance between greenfield and infill development whilst protecting and enhancing the natural environment.

The planning process for the classes of action set out in the Strategic Conservation Plan contributes to the delivery of ESD principles (a), (b), (c), (d), and (e) as follows:

- **Principle (a):** The planning process has considered the short and long term economic and social needs of the Perth and Peel regions within the context of protecting MNES and State factors.
- **Principle (b):** A conservative approach has been applied to MNES and State factors whose presence in the Strategic Assessment Area is subject to uncertainty or key information gaps. This approach is reflected in the design of the classes of action, which avoid potential habitat where possible.
- **Principle (c):** The design of the classes of action has considered inter-generational equity. The diversity, abundance and condition of MNES and State factors will be conserved through the maintenance and protection of green spaces and important areas of habitat.
- **Principle (d):** The planning process has integrated the analysis of impacts in this report to produce the classes of action described in the Strategic Conservation Plan. Conservation of biological
Strategic Assessment for the Perth and Peel Regions

Diversity and ecological integrity is a fundamental and ongoing consideration in the planning process.

- Principle (e): The classes of action and the conservation measures in the Strategic Conservation Plan provide certainty to developers and investors, which improves the pricing and incentive mechanisms already operating in the Strategic Assessment Area.

Recognising sustainability outcomes in the Urban Values Atlas

A system of valuation for undeveloped land was established to manage conflicting priorities and possible uses for greenfield areas over the life of the strategic assessment. The Urban Values Atlas for Perth and Peel is a decision making tool that captures a snapshot of the capacity of land in the region to deliver sustainable social and economic outcomes.

In addition to its role in the planning process described above, the Urban Values Atlas contributes to the delivery of ESD principle (e) as follows:

- Principle (e): The Urban Values Atlas is a valuation system for undeveloped land that was developed to support planning in the Perth and Peel regions.

Integrated infrastructure planning

During the development the Strategic Conservation Plan, relevant State transport and utilities agencies worked together to coordinate and integrate their approaches to infrastructure planning and implementation (see Action Plan C), including co-location and sharing of corridors. This approach will minimise the environmental impacts from infrastructure development and create efficiencies in the use of Government resources.

Integrated infrastructure planning contributes to the delivery of ESD principles (a) and (d) as follows:

- Principle (a): Integrated infrastructure planning considers the short and long term economic and social needs of the Perth and Peel regions within the context of protecting MNES and State factors.
- Principle (d): Conservation of biological diversity and ecological integrity has been a key consideration in the design of the infrastructure class of action.

BRM policy reform

During development of the Strategic Conservation Plan Basic Raw Materials (BRM) policy reform was initiated to provide greater certainty to industry, improve the regulatory system, integrate BRM extraction with land use planning and improve environmental outcomes from BRM extraction. The key components of this reform are described in Chapter 2 of the Strategic Conservation Plan and Action Plan D.

These reforms contribute to the delivery of ESD principle (a) as follows:

- Principle (a): The BRM policy reforms consider long-term and short-term economic, environmental, social and equity factors.
The Strategic Assessment for the Perth and Peel Regions

Strategic Environmental Impact Assessment process

The strategic assessment (including the Strategic Conservation Plan) addresses the management of potential impacts and threats to MNES arising from the future development of the Perth and Peel regions. It allows a landscape level consideration of threats and impacts over the life of the strategic assessment and contributes to the delivery of ESD principles (a), (b), (c), (d) and (e) as follows:

- Principle (a): Threats and impacts have been considered from proposed development until 2050. These impacts have been used to inform decision making and planning for growth in the Strategic Assessment Area.
- Principle (b): Incomplete data has been noted where relevant in the impact assessment. Appropriate conservation measures have been set in these cases to ensure conservation outcomes are met.
- Principle (c): Conservation objectives for flora, fauna, ecological communities and wetlands considered under the assessment ensure that MNES and state environmental factors will continue to be viable in the Strategic Assessment Area for future generations.
- Principle (d): The class of action footprints, action plans and conservation commitments reflect the findings of the impact assessment. This mechanism ensures that biodiversity and ecological integrity is fundamental to decision making about growth in the Perth and Peel regions.
- Principle (e): Offset mechanisms and the delivery of conservation across the Perth and Peel regions will lead to improved valuation and pricing of biodiversity.

Streamlining environmental approvals

The strategic assessment aims to avoid duplication of environmental assessment and approval processes without compromising the overall protection of the environment. Reducing the regulatory burden on developers is consistent with ESD principle (a) as follows:

- Principle (a): The cost of undertaking a strategic assessment is justified by the substantial economic benefits of reducing the cost and regulatory burden for developers over the life of the Strategic Conservation Plan. This represents integration of long-term and short-term economic considerations.

Impact avoidance

Avoidance has been built into the planning, impact assessment and ongoing phases of the Strategic Conservation Plan (see Chapter 9), which enabled consideration impacts at a scale that is not practical through typical site by site development processes. This contributes to the delivery of ESD principles (a), (b), (c), and (d) as follows:

- Principle (a): The development of class of action footprints to avoid impacts represents integration of long-term and short-term decision making with regard to the economic, social and environmental implications of the ‘connected city’ urban form.
- Principle (b): In the absence of complete data, avoidance of potential habitat has been prioritised alongside conservation measures for known habitat.
Principle (c): Avoidance is a major conservation strategy and will contribute to the presence of MNES and State factors in the Strategic Assessment Area for future generations.

Principle (d): The focus on avoidance in developing the class of action footprints ensures that biodiversity and ecological integrity is fundamental to decision making about growth in the Perth and Peel regions.

Environmental protection, offsets and conservation commitments

The Strategic Conservation Plan and Action Plans F, G and H set out a range of overarching and specific conservation measures to protect MNES and State factors. These include conservation commitments to avoid or minimise impacts and a conservation program to retain and protect important environmental values. This contributes to the delivery of ESD principles (a), (b), (c), (d) and (e) as follows:

- Principle (a): The environmental protection, offsets and conservation commitments developed in this strategic assessment apply over the short and long-term. They protect MNES and State factors and support the economic and social dividends of the ‘connected city’ urban form.
- Principle (b): In the absence of complete data, Action Plans F, G, and H avoid and mitigate direct and indirect impacts to potential as well as known habitat.
- Principle (c): The conservation measures in Action Plans F, G and H will contribute to the presence of MNES and State factors in the Strategic Assessment Area for future generations.
- Principle (d): The conservation measures in Action Plans F, G and H will influence future stages in the sub-regional and future planning processes. This ensures that biodiversity and ecological integrity is fundamental to decision making about growth in the Perth and Peel regions.
- Principle (e): Offset mechanisms and the delivery of the Conservation Program as described in Action Plan H across the Perth and Peel regions will lead to improved valuation and pricing of biodiversity.

Strategic approach to key environmental issues in the Perth and Peel regions

The Perth-Peel region supports feeding habitat for Carnaby’s cockatoo and contains the Peel-Yalgorup system of wetlands, two key environmental issues in the area. The strategic assessment has enabled the Western Australian Government to consider the conservation, planning and development implications of these issues at a broad spatial and temporal scale. The conservation strategies for these two issues are discussed in Chapters 15 and 19 respectively and will deliver superior outcomes to a standard site by site development process. This contributes to the delivery of ESD principles (a), (c) and (d) as follows:

- Principle (a): The conservation measures for Carnaby’s cockatoo will support the species over the life of the strategic assessment. The Peel-Yalgorup system of wetlands is an important economic and social resource in addition to its environmental value. The conservation measures for this wetland and its associate catchments reflect long and short-term consideration of its social, economic, and environmental dimensions.
- Principle (c): The conservation measures for Carnaby’s cockatoo and the Peel-Yalgorup system of wetlands will contribute to the presence and condition of these values in the Strategic Assessment Area for future generations.
• **Principle (d):** Biodiversity and ecological integrity have been key considerations in the design of the classes of action, which reflect the conservation measures for Carnaby’s cockatoo and the Peel-Yalgorup system of wetlands.

**Climate change mitigation and adaptation**

Climate change risk has been assessed in relation to MNES within the Strategic Assessment Area. The issue has also played a role in planning and policy development regarding groundwater recharge and clearing of pines. In addition to the role of climate change in the development of the conservation commitments and measures discussed above, this analysis contributes to the delivery of ESD principle (b) as follows:

• **Principle (b):** It is not possible to precisely predict the effects of climate change on MNES and State factors. However, climate change is expected to exacerbate threats and pressures to MNES and State factors and this has been included in the development of conservation measures for the environmental factors.

**The proposed funding mechanism**

A portion of the funding required to deliver on the commitments and offsets established in the Strategic Conservation Plan will be raised from proponent contributions. Proponent contributions will contribute to the delivery of ESD principles (a) and (e) as follows:

• **Principle (a):** Long and short-term consideration has been given to economic and environmental circumstances in designing the proposed levy.

• **Principle (e):** A funding mechanism will set a value for environmental assets by internalising costs that are otherwise externalised and borne by wider society.

**Monitoring, adaptive management and the assurance framework**

The Strategic Conservation Plan includes a monitoring, adaptive management and assurance framework to manage uncertainty about the class of action impacts on MNES and State factors. The findings of the monitoring program will inform the implementation of the classes of action as described in Action Plans F and I. This contributes to the delivery of ESD principles (a), (b), and (d) as follows:

• **Principle (a):** Monitoring and adaptive management allow the long-term decisions that are made during the strategic assessment to be adjusted and refined as the Strategic Conservation Plan is implemented. This integrates long and short-term decision making about environmental, economic, social and equity considerations in the Strategic Assessment Area.

• **Principle (b):** The monitoring, adaptive management and assurance framework is designed to support decision making and conservation activity in the absence of complete information.

• **Principle (d):** The assurance framework will ensure that conservation of biodiversity and ecological integrity is fundamental to decision making throughout the implementation of the Strategic Conservation Plan.
**The ongoing approvals process**

The Strategic Conservation Plan and its associated Action Plans set out ongoing State approvals processes for the proposed classes of action. These processes will occur in the context of a long term conservation strategy for the Strategic Assessment Area including specific and overarching conservation commitments to avoid, offset and mitigate direct and indirect impacts.

The long term and landscape scale analysis in the Strategic Conservation Plan, Impact Assessment Report and classes of action ensures that this approvals process will contribute to the delivery of ESD principles (a), (b), (c), and (d) as follows:

- **Principle (a):** Approval decisions for individual projects will be made in the context of a long-term, landscape scale strategic environmental assessment and planning process that have considered the long-term economic, social and equity dimensions of proposed development in the Perth and Peel regions. This integrates short and long-term economic, environmental social and equitable considerations.

- **Principle (b):** Each project in the Strategic Assessment Area will be assessed against a set of conservation commitments that apply a conservative approach in the presence of uncertainty or key information gaps.

- **Principle (c):** The approvals processes will ensure that the consideration of inter-generational equity that informed the design of the classes of action will apply to individual projects within the Strategic Assessment Area.

- **Principle (d):** The approvals processes will reflect the Strategic Conservation Plan, which is fundamentally concerned with the conservation of biological diversity and ecological integrity.
24 Addressing uncertainty and managing risk

The Strategic Conservation Plan will operate until 30 June 2047 and conservation actions will continue in an ongoing way once this period ends. Long timeframes such as this are subject to an inherent level of variability and uncertainty.

This chapter outlines:

- The key uncertainties in relation to the protection of MNES and discusses the proposed responses to these issues. It should be noted that the adequacy of information used in this strategic assessment is discussed in detail in Chapter 6 (and is therefore not discussed in this section).
- The assurance framework built into the Strategic Conservation Plan.

24.1 KEY UNCERTAINTIES

24.1.1 Indirect impacts

There are a range of possible indirect impacts to MNES that may occur over time. These are associated with various aspects of the classes of action and include:

- **Direct mortality of individuals**: Typically occurs as a result of collision with vehicles or buildings, shooting, poaching, or trampling.
- **Spread of disease**: Relates to the increased risk of disease to MNES.
- **Spread of weeds**: Development and subsequent fragmentation of habitat areas can introduce new pathways for weed transportation.
- **Introduction of feral animals**: Feral animals are a threat to a range of MNES. The expansion of urban and rural residential areas has the potential to increase predation from domestic and feral animals, especially cats.
- **Increased risk of fire**: Fire and altered fire regimes are a potential consequence of development in the Perth Peel region.
- **Introduction of linear barriers**: Linear barriers such as fences, sound barriers and roads can influence fauna movement and predation by feral species.
- **Disturbance**: Disturbance relates to a range of impacts caused by human activity near sensitive MNES.
- **Noise and vibration**: Noise and vibration from construction, industrial, infrastructure and BRM activities can have a range of impacts to MNES.
- **Artificial lighting**: Artificial lighting is a likely impact in urban, industrial, and commercial areas; around infrastructure; or near BRM sites that use outdoor artificial lighting. Artificial light can affect the behaviour of nocturnal and diurnal species.
- **Alterations to surface water**: Alterations to surface water can affect surface water quality and hydrology which can impact a range of MNES.
• **Alterations to groundwater**: Alterations to groundwater can affect groundwater quality, including salinity and contamination, and hydrology, including recharge and groundwater levels. Alterations to groundwater can affect a range of groundwater sensitive MNES.

• **Impacts to air quality**: Potential impacts to air quality include increased dust and particulate pollution, contaminants from vehicle activity, and contamination from industrial activity.

The nature and scale of the strategic assessment make it difficult to quantify the potential outcomes from these pressures. However, the impact assessment has addressed this through:

• identifying those MNES which are at particular risks of indirect impacts; and

• defining conservation commitments in the Strategic Conservation Plan to address these issues.

In terms of the implementation of the Strategic Conservation Plan, potential indirect impacts will be addressed through:

• Implementation of relevant conservation commitments (e.g. State planning, assessment and approval processes to address potential changes to groundwater as a result of development).

• Ongoing management of existing and future conservation reserves in the Strategic Assessment Area to address issues such as threatening processes and edge effects to protect MNES.

• Ongoing monitoring to understand if conservation outcomes and objectives have been met.

• Adaptive management of the Strategic Conservation Plan to ensure management measures are appropriately addressing the impacts of development.

This management regime is considered appropriate for addressing the uncertainty around indirect impacts.

### 24.1.2 Delivery of offsets

A key part of the conservation program (see Chapter 11) will be the delivery of offsets for future impacts through Action Plan H. At the planning and assessment phase it is difficult to quantify the final outcome that these offsets will provide given that they will rely on a range of factors including:

• implementation over time as impacts occur; and

• engagement with private and public landholders in terms of land acquisition.

Despite the difficulty in predicting the final outcomes, it is considered that the offset program will provide substantial benefits to MNES over time. Measures that will be put in place to ensure the success of the offset program include:

• A focus on delivery of the conservation objectives for MNES.

• Strong funding and governance arrangements.

• Linking offsets to development to ensure that the pace of conservation is linked to the pace of impacts.

• Building the ongoing application of offsets to the initial package of sites identified in the Strategic Conservation Plan that provides upfront benefits for a range of MNES.
24.1.3 Impacts from infrastructure

The infrastructure class of action (refer to Chapter 3 of the Strategic Conservation Plan) incorporates transport, power and water infrastructure likely to be constructed or upgraded across the Perth and Peel regions to support an increase in population to 3.5 million. The development of infrastructure will occur in both greenfield and brownfield (already cleared/existing urban) locations.

The planning for this infrastructure is at various stages and the proposed network is largely conceptual at this stage. The impacts from infrastructure development are therefore difficult to accurately predict at this stage.

In response, the impact assessment considers potential impacts to MNES in relation to any of the proposed infrastructure corridors. The assessment looks at the:

- level of potential impacts using the entire infrastructure footprint; and
- conservation commitments required to protect MNES within these areas.

In addition, the final location and alignment of infrastructure is subject to future processes of refinement following detailed planning and design to further avoid and minimise impacts to environmental values, including MNES.

These processes are incorporated into Chapter 4 of Action Plan C and broadly involve:

- Initial steps to ensure that infrastructure sites and alignments have made efforts to avoid MNES and State values.
- Further detailed investigations for sites and alignments that require further avoidance.
- State based planning and regulatory processes to assess the direct and indirect impacts of proposed projects.

Monitoring and reporting that is built into the Strategic Conservation Plan will define the final outcomes of the infrastructure class of action as it proceeds.

24.1.4 Unknown occurrences of MNES

As outlined in Chapter 6 (information base for the assessment), very large-scale assessments such as this provide an important opportunity to understand and assess environmental values in a more holistic way compared with the alternative site-by-site approach. However, there is also greater uncertainty inherent in the data used at this strategic level.

This issue is most relevant to the assessment of species and ecological communities. The baseline information for these matters generally focuses on existing records and mapped potential habitat associated with these records. This is considered appropriate as survey effort within the Perth and Peel region has been extensive over many years, providing a high level of confidence that important or notable areas have generally been recorded and mapped. Given the strategic level of the assessment, this existing information provides an adequate basis to understand values and assess impacts.

However, it is also acknowledged that some parts of the Strategic Assessment Area have not had survey. These areas have the potential to support threatened flora populations, ecological communities and habitat for fauna. While the risk is considered to be low, the discovery of new occurrences of MNES in new locations may be considered important.
This issue will be addressed through the ongoing State based planning and approvals processes for each of the classes of action. These processes are explained in Action Plans A-E and incorporate:

- surveys in some instances; and
- requirements relating to further avoidance, mitigation and offsets.

It is expected that these processes will deal with risks associated with unknown occurrences of MNES.

### 24.1.5 Climate change

As outlined in Chapter 13, one of the key threats to biodiversity and ecosystem function in Australia is climate change. It is occurring at a greater rate than previous changes in climate, and the impacts of this are already apparent (Steffen et. al. 2009).

The extent to which these predicted changes will impact, and interact with existing pressures on the biodiversity within south-west Western Australia, and more specifically the Strategic Assessment Area, will be variable.

It is challenging to accurately define the future effects of climate change on issues such as threatened species and ecological communities within the Strategic Assessment Area given:

- the complex interactions between climate change and other stressors currently affecting biodiversity;
- individualistic species responses to the physical and chemical changes associated with climate change;
- unpredictable, and often hard to understand, changes in ecological systems; and
- a lack of general ecological knowledge about limiting factors, genetics, dispersal rates, and interactions among species that comprise south-western Western Australian ecosystems (Steffen et. al. 2009).

Despite these challenges, it is possible to use basic ecological principles, such as life history traits to more broadly understand which MNES are likely to be more vulnerable ('at risk') to the effects of climate change (Steffen et. al. 2009). This also helps inform decisions around the conservation program (see Chapter 11) and provides context for the detailed impact assessments presented in Chapters 15 to 21.

The two key adaptation measures to address climate that will be implemented through the Strategic Conservation Plan involve building resilience in ecosystems and implementing ongoing adaptive management.

**Building resilience**

Building resilience is possibly the most important conservation action to implement in response to the future decades of projected climate change impacts in Australia. Building resilient ecosystems can be achieved through maintaining well-functioning ecosystems, protecting an array of ecosystems (with appropriate connectivity and incorporation of refugia), and removing current stressors (Steffen et. al. 2009; Heller et. al. 2015).
Central to building resilience will be the range of measures to deliver the conservation outcomes and objectives of the Strategic Conservation Plan. The framework for these measures is discussed in detail in Chapters 9, 10 and 11.

A key element will be the protected area network within the Strategic Assessment Area. This already provides significant benefits to ecosystems and will be substantially expanded upon over the life of the Strategic Conservation Plan. The process for this is set out in Action Plan H of the Strategic Conservation Plan (summarised in Chapter 11), and importantly involves the application of conservation planning principles to ensure that the network is comprehensive, adequate and representative.

**Adaptive management**

As outlined in Chapter 6 of the Strategic Conservation Plan, the Western Australian Government will implement an assurance framework to ensure the Action Plans are delivered and the outcomes, objectives and commitments are achieved.

The processes implemented through the assurance framework will ensure that the Strategic Conservation Plan and associated Action Plans respond to the ongoing challenges of climate change until 2047.

Importantly, the results of the monitoring program will be used to guide future management decisions. This may include revision of conservation commitments to respond to climate change factors to better achieve the conservation objectives (if deemed necessary).

### 24.2 ASSURANCE FRAMEWORK

The Assurance Framework (Chapter 6 of the Strategic Conservation Plan) and the Assurance Plan (Action Plan I) provide the mechanisms for monitoring, compliance, reporting and review of the Strategic Conservation Plan.

The assurance framework is a significant part of the processes to address uncertainty and risk in implementation over a long timeframe. Importantly it provides a process for monitoring performance of the Plan and updating management actions as needed (see Figure 24-1).

#### 24.2.1 Monitoring program

The monitoring program is focused on understanding the status of the conservation outcomes and objectives. It provides the basis for understanding the success or failure of the Strategic Conservation Plan in achieving its goals for MNES. It will be implemented in order to determine if the:

- activities detailed in the Action Plans are being implemented (compliance assurance monitoring); and
- outcomes, objectives and commitments of the Strategic Conservation Plan are being achieved (environmental condition monitoring).
24.2.2 Compliance assurance program

A compliance assurance program has also been developed to ensure implementation of the conservation commitments. This program will focus at various levels as required (regular compliance, non-compliance actions, third party audit).

24.2.3 Annual reporting

Monitoring also feeds into annual reporting against the conservation outcomes, objectives and commitments of the Strategic Conservation Plan. The annual reports will comprise (at a minimum):

- Information on progress in implementing the development Action Plans A-E, and delivery of the conservation commitments.
- Any compliance assurance issues and the State’s response.

24.2.4 Five year review

Every five years, the Western Australian Government will undertake a comprehensive review of the Strategic Conservation Plan. The purpose of the review will be to:

- assess progress in achieving the outcomes and objectives for both State and Commonwealth matters; and
- assess the effectiveness and efficiency of State systems and processes in achieving these outcomes and objectives.

The five yearly review will (at a minimum):

- examine the efficiency and effectiveness of the Action Plans (and associated systems/processes);
- report on progress in achieving the outcomes and objectives;
- identify improvements and corrective actions required to ensure outcomes and objectives will be achieved; and
- assess implementation of improvements and corrective actions from previous reviews.

The review will be a critical opportunity to ensure that:

- new information is incorporated into the Strategic Conservation Plan’s commitments; and
- issues around uncertainty and risk are examined and the adequacy of management measures tested against delivery of the conservation outcomes and objectives.

24.3 CONCLUSION

It is considered that the proposed measures to address the key uncertainties combined with implementation of the assurance framework will reduce the possibility of unforeseen substantial impacts to MNES. Perhaps most significantly, monitoring and adaptive management of the Strategic Conservation Plan will provide a safety net as development and the conservation program are implemented.
Figure 24-1: Assurance framework
25 Terms of reference and endorsement criteria

25.1 TERMS OF REFERENCE

The terms of reference establish the scope for the strategic assessment (refer to Appendix A) and form part of the Strategic Assessment Agreement between the Western Australian and Commonwealth Governments. Table 25-1 lists the terms of reference and relates them to the relevant sections within this report.

Table 25-1: Strategic assessment terms of reference

<table>
<thead>
<tr>
<th>Terms of Reference</th>
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<tr>
<td>1. PURPOSE</td>
<td>n/a</td>
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| 2. DESCRIPTION OF THE PLAN BEING ASSESSED | Predominately addressed in Chapter 2 of this report. The issues relating to the MNES Plan are also addressed in more detail in the Draft Strategic Conservation Plan for the Perth and Peel Regions which can be viewed in conjunction with this report.
Chapter 3 of this report describes the regional context (clause 2b). |
| a) how the MNES Plan has been developed; | |
| b) the regional context (human and natural (e.g. Interim Biogeographic Regions of Australia)) of the MNES Plan; | |
| c) the legal and administrative frameworks that will ensure the implementation of the MNES Plan. | |
| This should include: | |
| - legal standing of the MNES Plan, | |
| - the relationship of the MNES Plan to other relevant policies, plans, guidelines, commitments and legislation/regulation, | |
| - the basis of land and asset tenure for the MNES Plan area, | |
| - the management and approval arrangements of WA and the person(s) or authority responsible for the adoption or implementation of the Plan; | |
| d) the actions or classes of action that are subject of the MNES Plan, including the short, medium and long term aspects of those actions or classes of action. These will include construction and operational aspects as well as a description of the proposed urban development and associated infrastructure. | |

3 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT

3.1 Project need and justification.

The Report will provide the social and economic basis for the MNES Plan to allow those aspects, in addition to environmental matters, to be considered by the Minister in deciding whether to endorse the MNES Plan. To this end it must outline the socio-economic costs and benefits of the MNES Plan derived during the period of its implementation. Principle assumptions underpinning the socio-economic assessment should be outlined.

3.2 Planning for ecologically sustainable development.

The report will provide the social and economic context for the MNES Plan as described in Directions 2031 Spatial Framework for Perth and Peel. The Report will outline the planning and design process underpinning the MNES Plan and how environmental and cultural heritage has been treated through assessment and selection of alternative
Terms of Reference

scenarios to align and maximise environmental, social and economic outcomes.

The MNES Plan will describe how principles of ecologically sustainable development have been considered in the development of the MNES Plan and how the Plan promotes these principles as described in section 3A of the EPBC Act.

The report must describe mechanisms and strategies that seek to achieve ecologically sustainable development including actions to maintain or enhance biodiversity, having regard for species diversity and abundance, and the extent, condition, connectivity and protection of native vegetation. These mechanism and strategies will include, but are not limited to:

- environmental flows and water for ecosystems,
- recovery plans for matters of national environmental significance listed under the EPBC Act or WA legislation,
- threat abatement plans for key threatening processes listed under the EPBC Act or WA legislation,
- other introduced and/or translocated pest animals, plants and wildlife diseases,
- managing native vegetation, and
- biodiversity conservation, including climate change adaptation.

a) the extent that existing WA management strategies may need to be modified to achieve their objectives in the MNES Plan area, due to implementation of the MNES Plan.

4. AVOIDING IMPACTS ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE AND PROMOTING THE PROTECTION AND CONSERVATION OF BIODIVERSITY AND HERITAGE VALUES.

4.1 Environment affected by the MNES Plan.

The Report will provide:

a) a detailed description of the environment likely to be directly or indirectly impacted by the implementation of the MNES Plan. This includes the environment beyond the planning area identified in the MNES Plan that could be affected by the proposed development (e.g. the offsite impacts from stormwater management measures on water quality entering Ramsar wetlands and/or the marine environment);

b) a detailed description of any physical processes (e.g. fire, flooding, past and current land and water use) influencing the environmental characteristics of the MNES Plan area or surrounds, or influencing the potential impacts on the MNES Plan area or surrounds,

Addressed in Chapter 3 of this report.
4.2 Nature and implication of impacts affected by the MNES Plan.

The Report will include an assessment of the potential impacts (including direct and indirect impacts, as defined by Section 527E of the Act) on each matter of national environmental significance affected by the MNES Plan including those matters that are potentially eligible for listing under the Act.

The assessment may be included in the Report as part of the profiles developed in Item 4.1 above for each matter of national environmental significance affected by the MNES Plan. The assessment must address (but not be limited to):

a) the nature and extent of the potential impacts, whether short, long term or irreversible, local or regional, discrete or cumulative. Where appropriate, this will include the provision of maps to show the location, amount (hectares), quality and type of the habitat (e.g. foraging, breeding) for the MNES that will be either degraded, destroyed, or retained within the MNES Plan area;

b) whether or not, and if so the extent to which, the impacts will be exacerbated by anticipated impacts of climate change, adaptation to the impacts of climate change or key threatening processes listed under the Act;

c) the degree of potential impacts on known (or prospective) matters of national environmental significance – with reference to the relevant plans, policies or guidelines;

d) the scientific confidence associated with the likelihood and consequence(s) of potential impacts, including reference to technical data, traditional/indigenous knowledge or other information relied upon in assessing the environmental impacts of the MNES Plan; and

e) principal assumptions underpinning the assessment provided above.

A profile will also be developed for matters of national environmental significance that are potentially eligible for listing as a result of their:

- inclusion in a final priority assessment listing, or
- otherwise recommended to the Minister for listing by the Threatened Species Scientific Committee prior to submittal of the Report.

Addressed in:

- Chapter 13 (identifying and responding to climate change risks).
- Chapter 14 (analysing key threatening processes).
- Chapter 15 (Carnaby’s cockatoo).
- Chapter 16 (other threatened fauna).
- Chapter 17 (threatened flora).
- Chapter 18 (threatened ecological communities).
- Chapter 19 (the three Ramsar sites).
- Chapter 20 (migratory shorebirds).
- Chapter 21 (World and National Heritage).
4.3 **Management, mitigation or offset of likely impacts of implementing the MNES Plan.**

The Report will include a description and assessment of the *management measures* (e.g. works, on-ground actions, regulatory interventions, area-specific management plans and market based instruments) that will be implemented by WA prior to, during or post the implementation of the MNES Plan. The management measures are intended to avoid, minimise, rehabilitate or offset potential impacts on matters of national environmental significance caused by implementing the MNES Plan.

The assessment may be included in the Report as part of the profiles developed in Item 4.1 above for each matter of national environmental significance affected by the MNES Plan. For management measures, the Report must include an assessment of:

- **a)** the appropriateness of the approach taken (e.g. when compared to other potential approaches) to addressing the impacts of the actions or classes of actions proposed in the MNES Plan;
- **b)** the predicted effectiveness of the proposed measures. Claims regarding effectiveness of measures must be substantiated, including a description of the methodology used to formulate these predictions/confidence limits;
- **c)** the predicted efficiency of maintenance or operational requirements associated with proposed management measures;
- **d)** the predicted effectiveness of the compliance and enforcement requirements associated with proposed management measures;
- **e)** the statutory power and responsibility of the agency or agencies to implement the MNES Plan;
- **f)** the appropriateness of the timelines and accountabilities for implementing proposed measures and associated compliance and maintenance requirements, and
- **g)** the appropriateness of the proposed offsets in the context of evolving or approved policy including (but not limited to):
  - Commonwealth EPBC Act Environmental Offsets Policy, Consultation draft, August 2011
  - Commonwealth threat abatement plans, recovery plans, conservation advices and other relevant policy statements;

Where appropriate, information on proposed offsets will include the provision of maps to show the location, amount (hectares), quality and type of the habitat (e.g. foraging, breeding) for the relevant matters of national environmental significance:

- within the MNES Plan area, and
- across its range in WA.

5 **ADAPTIVE MANAGEMENT, ADDRESSING UNCERTAINTY AND MANAGING RISK**

The Report must identify key risks associated with the management measures and undertakings for protecting matters protected by the Act, and the responses for addressing these risks and adapting to changed circumstances.

The Report must set out:

- **a)** key risks (for example risks about timing, effectiveness, or capacity to enforce measures);
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<td>b) the responses to addressing these risks;</td>
<td>conjunction with this report.</td>
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<tr>
<td>c) the circumstances in which the MNES Plan will be reviewed and modified (for example new information or changing standards); and</td>
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<td>d) the procedures which would be undertaken to review, modify or abandon the MNES Plan, including regular reviews.</td>
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### 6 AUDITING AND REPORTING

The Report must set out:

- a) proposed monitoring and public reporting processes and timeframes that address the effectiveness of the management measures during and post the implementation of the MNES Plan; and
- b) commitments for independent, third party auditing of the MNES Plan implementation.

Addressed in Chapter 2 and Chapter 24. Further detail is also available in the *Draft Strategic Conservation Plan for the Perth and Peel Regions* which can be viewed in conjunction with this report.

### 7 ENDORSEMENT CRITERIA

The Report must include an assessment of how the MNES Plan together with any associated management arrangements meets the criteria set out in *Attachment D – Strategic Assessment Endorsement Criteria.*

Addressed in Section 25.2.

### 8 INFORMATION SOURCES

For information used in the assessment, the Report must state:

- a) the source of the information;
- b) how recent the information is;
- c) how the reliability of the information was tested; and
- d) what uncertainties are in the information.

Addressed in Chapter 6 and throughout the detailed analysis for each MNES (Chapters 15-21).
25.2 ENDORSEMENT CRITERIA

The endorsement criteria are a set of criteria that must be met in order for the Australian Government Minister for the Environment to endorse the Strategic Conservation Plan. They form part of the Strategic Assessment Agreement between the Western Australian and Australian Governments (refer to Appendix A).

Table 25-2 lists the endorsement criteria and relates them to the relevant sections within this report.

**Table 25-2: Strategic assessment endorsement criteria**

<table>
<thead>
<tr>
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<td>When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates, and that any recommendations to modify the policy, plan or program have been responded to appropriately.</td>
<td>Chapters 15-21 address the nature and significance of impacts to which the agreement relates. <em>Recommendations to modify the policy, plan or program are not applicable at this stage of the process.</em></td>
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<td>In determining whether or not to endorse the MNES Plan the Minister will also have regard to the extent to which the MNES Plan meets the Objects of the Act. In particular, that it: - protects the environment, especially matters of national environmental significance; - promotes ecologically sustainable development; - promotes the conservation of biodiversity; and - provides for the protection and conservation of heritage.</td>
<td>The following chapters provide a discussion of the planning process, values of the area, potential impacts, management measures and offsets that illustrate how the Strategic Conservation Plan meets the objectives of the Act: - Chapter 2 describes the Strategic Conservation Plan (including the planning process). - Chapter 12 describes the relevant MNES. - Chapters 15-21 provide a detailed impact assessment for relevant matters and outline conservation objectives, management measures and offsets. - Chapter 23 describes how the Strategic Conservation Plan promotes ecologically sustainable development.</td>
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<tr>
<td>Accordingly, the MNES Plan should: - avoid actions from being taken in any location that have an impact on matters of national environmental significance or of high biodiversity or heritage values where ever possible; or - where potential impacts cannot be avoided, then the impacts should be reduced to an acceptable level; and - provide for effective mitigation or offset where the likely impacts cannot be avoided; and - contain effective arrangements for adaptive management for conservation measures; and - contain a system for monitoring, auditing and publicly reporting on implementation.</td>
<td>General discussion of avoidance, mitigation and offsets is provided in Chapters 9-11. Analysis of MNES provided in Chapters 15-21 which provide a detailed impact assessment for relevant matters and outline conservation objectives, management measures and offsets. Addressed in Chapters 2 and 24.</td>
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| The Minister will also consider the extent to which the MNES Plan adequately:  
- identifies and includes management measures for matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance. | Addressed in Chapter 22. |
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