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SOUTH WEST GROUP

Biodiversity Mapping in the South West Metropolitan Region

Presented to the EPBC Act Strategic Assessment of Perth and Peel Region Stakeholder Reference Group

26 November 2013

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SOUTH WEST GROUP

Member Council and Partners in the South West Group Regional Natural Resources Management (NRM) Strategy

City of Kwinana

City of Fremantle

Town of East Fremantle 1897

City of Cockburn wetlands to waves

City of Melville

City of Rockingham

Local Biodiversity Program is supported by:

WALGA

The Government of Western Australia

Department of Planning

Government of Western Australia

Department of Parks and Wildlife

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Background

- Regional NRM Strategy an initiative of the South West Group
- Aimed at addressing regional NRM issues and identifying large scale, cross boundary NRM initiatives
- WALGA LBP Team engaged to undertake regional biodiversity mapping
- South West Group implementing Regional NRM Strategy based on priority projects and initiatives
- Promotes working together, active participation, collaboration, information and resources sharing

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Outline of Presentation

- WALGA's Perth Biodiversity Project (PBP) objectives for biodiversity conservation
- Methodology and prioritisation process for biodiversity mapping
- Identification of threatened vegetation communities
- Other biodiversity conservation values considerations, opportunities and constraints
- Potential use of SWMR Biodiversity Mapping for EPBC Act Strategic Assessment

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The **Local Biodiversity Program** has the objective of increasing the capacity of Local Government to conserve biodiversity

Strategic planning for local biodiversity conservation priorities and integration into local land use planning.

Management of significant areas of bushland and wetlands.

Community engagement, support and recognition.

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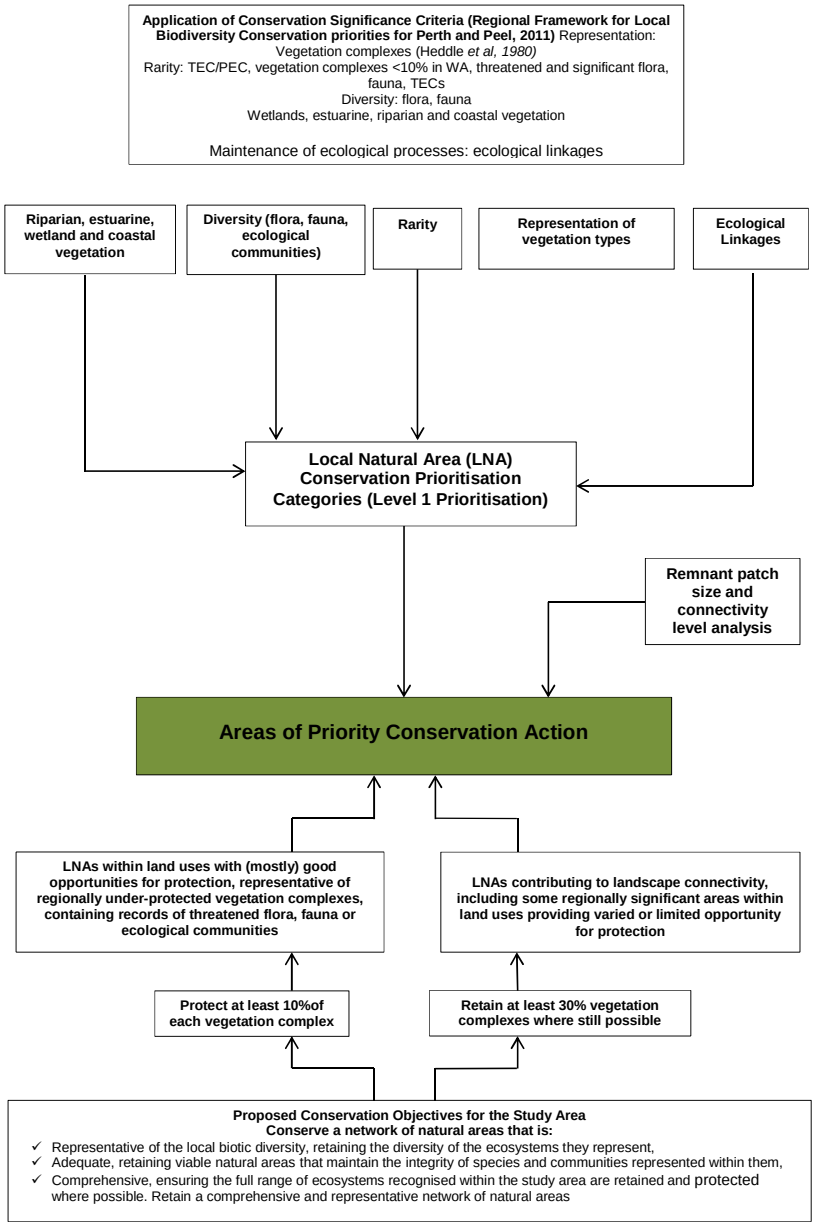
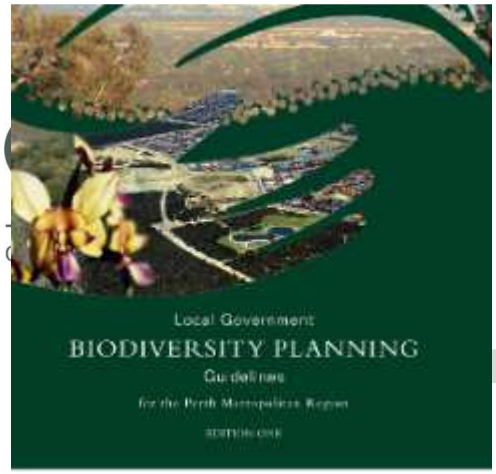
Local Biodiversity Conservation Planning

- Endorsed **prioritisation** methodology
- Data defining the **regional context** for **local significance**
- **Spatial analysis** to identify **high conservation value** areas, assess **opportunities and constraints** and identify local **conservation hot spots**
- Advise on feasible and effective mechanisms for **improved conservation status** and integration of local biodiversity conservation objectives **into land use planning**



Project Methodology



LEGISLATION and POLICY addressing biodiversity

Regional and Local **Planning Framework**

Criteria for assessment of conservation values of **Local Natural Areas**

Classification of regional and local **scheme zones and reserves**

Prioritisation of natural areas for conservation

Assessment of **opportunities and constraints** to biodiversity conservation

REGIONAL FRAMEWORK FOR LOCAL BIODIVERSITY CONSERVATION PRIORITIES

With a spatial plan of priority Local Natural Areas in the Perth and Peel Region

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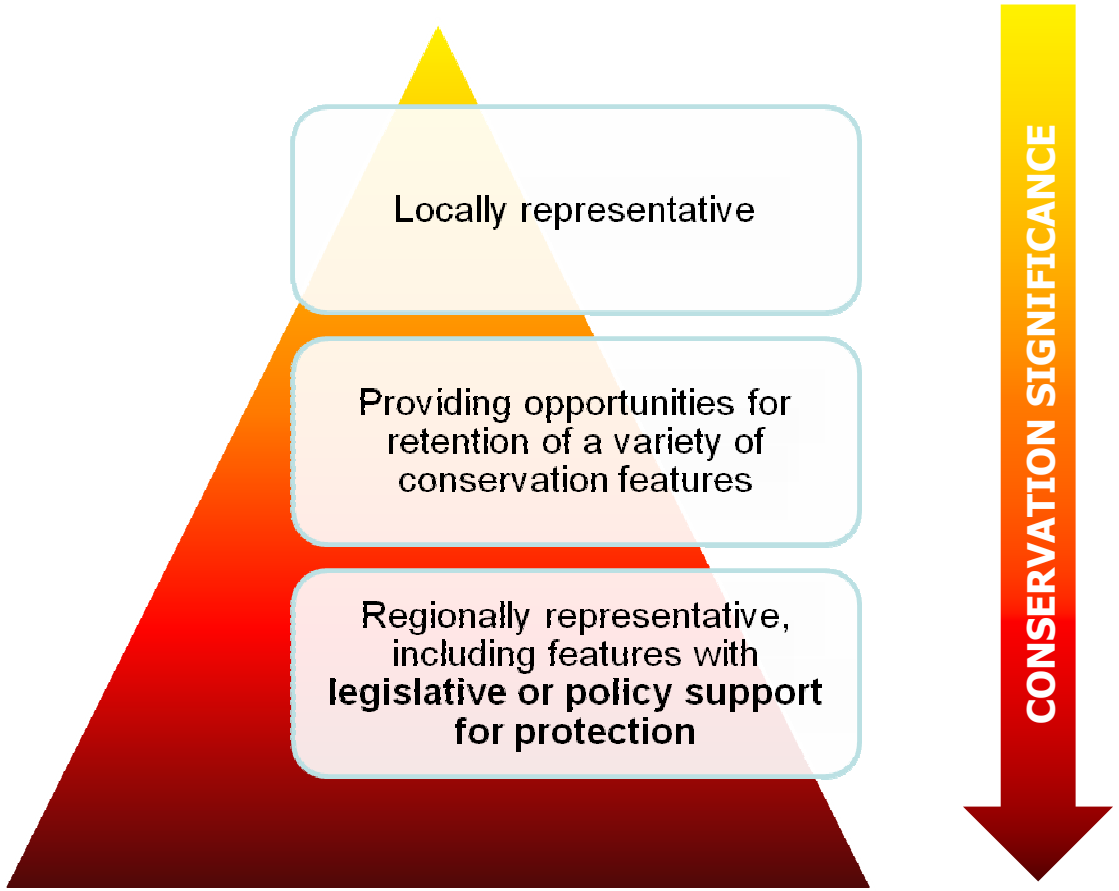
Local Natural Area
Level 1 Prioritisation criteria

- Regional retention & protection
- Rarity
- Maintenance of ecological functions
- Local retention



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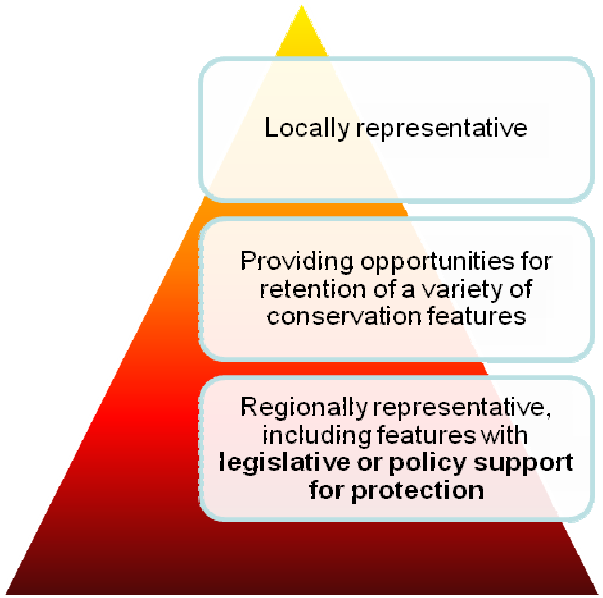
Level 2 Prioritisation

Conservation significance & opportunities for, and constraints to, conservation

Protected



With varied opportunities for native vegetation retention/protection

With good opportunities for native vegetation retention/protection

With limited opportunities for native vegetation retention/protection

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Level 3 Prioritisation

Identification of potentially threatened vegetation complexes

Based on hypothetical simplified assumptions:

Current extent of vegetation complexes & their regional distribution

All vegetation reserved for Parks & Recreation will be retained

Vegetation zoned/reserved Urban, Urban deferred, Industrial, Roads, Railways, City Centre, Ports would be cleared

Various retention scenarios applied to vegetation within zones/reserves Rural, Public Purposes, Special Use (30%, 50% and Bush Forever contribution)

Consideration of local biodiversity conservation objectives adopted through Local Biodiversity Strategies

POTENTIALLY THREATENED VEGETATION COMPLEXES

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Potentially threatened vegetation complexes

- **CP1** – Vegetation complexes with **>90%** regional extent within the study area and assumed **<10%** retention in the study area: **Beermulah; Cannington; Forrestfield**
- **CP2** – Vegetation complexes with **>90%** regional extent in the study area and assumed **<30%** retention in the study area: **Cottesloe Central and South; Herdsman; Pinjar**
- **CP3** – Vegetation complexes with **>60%** regional extent in the study area and assumed **<10%** retention in the study area: **Bassendean Central and South; Guildford; Karrakatta Central and South; Serpentine river; Southern River; Swan**
- **CP4** – Vegetation complexes with **>60%** regional extent in the study area and assumed **<30%** retention in the study area: **Quindalup; Darling Scarp**
- **CP5** –Vegetation complexes with **<10%** assumed retention in the study area: **Coonanbidgee; Dardanup; Yalanbee 5, Yanga;** Not mapped
- **CP6** – Vegetation complexes with **<30%** assumed retention in the study area: **Karakatta North; Mogumber South; Reagan; Vasse; Coolakin; Yalanbee 6**

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Potentially threatened vegetation complexes in Perth & Peel and their distribution in the SWMR

- **CP2 – Vegetation complexes with >90% regional extent in SWMR and assumed <30% retention based on the current MRS & PRS provisions:**
  - **Cottesloe Central and South** – retained at >30% in Rockingham, <30% in Cockburn and Kwinana and <10% in Fremantle, East Fremantle and Melville;
  - **Herdsman** – retained >30% in Rockingham, Kwinana and Cockburn, lost in Melville.
- **CP3 – Vegetation complexes with >60% regional extent in SWMR and assumed <10% retention based on the current MRS & PRS provisions:**
  - **Bassendean Central and South** – retained at >30% in Kwinana, <30% in Cockburn and Rockingham and <10% in Melville. Over 50% of the current extent of this vegetation complex in Perth and Peel is located within 8 Local Governments south of the River, with largest portions in Kwinana and Cockburn.
  - **Guildford** – retained at <10% in Rockingham and Kwinana;
  - **Karrakatta Central and South** – retained at <30% in Kwinana and Rockingham, <10% in Cockburn, Melville and Fremantle. 19% of the current extent in Perth and Peel is located in Rockingham, this is more than its pre-European extent proportion (11%). ;
  - **Serpentine River** – retained at <10% in Rockingham. 39% of the current extent in Perth and Peel is located in Rockingham, this is more than its pre-European extent portion (28%).
  - **Southern River** – retained at <30% in Cockburn.

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Potentially threatened vegetation complexes in Perth & Peel and their distribution in the SWMR

- **CP4** – **Vegetation complexes with >60% regional extent in the SWMR and assumed <30% retention based on the current MRS & PRS provisions :**
  - **Quindalup -** retained at >30% in Rockingham but it has been over cleared locally. 37% of Quindalup pre-European extent was in Rockingham that now has only 26% of the current extent in Perth & Peel.

- **Other vegetation complexes occurring in the SWMR:**
  - **Dardanup -** <10% remains in Perth and Peel and <10% remains in Rockingham, representing 34% of the remaining extent in Perth & Peel. The remaining extents in Perth and Peel are in the Shires of Serpentine Jarrahdale and Waroona. It should be noted that in Waroona this vegetation complex was over cleared, its current proportion in Perth and Peel is only 16% compared to 54% of the pre-European extent proportion.
  - **Yoongarillup** - >55% remains in Perth & Peel (Mandurah & Waroona) and >69% remains in Rockingham with >50% protected.

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Additional considerations

BIODIVERSITY CONSERVATION VALUES:

- **Connectivity** - Proximity to other protected areas
- Local **site specific** information – *flora, fauna surveys, plant community mapping*
- **Vegetation condition**
- Threatening processes (**dieback**, **weeds, feral animals**) – impact on long term viability
- **Acid sulfate soil risk**

OPPORTUNITIES AND CONSTRAINTS:

- **Current environmental and planning policies**
- **EPA Strategic advice under s. 16**
- **Cultural and heritage values**
- **Local strategies and policies**
- **Basic Raw materials**
- **Approved developments**

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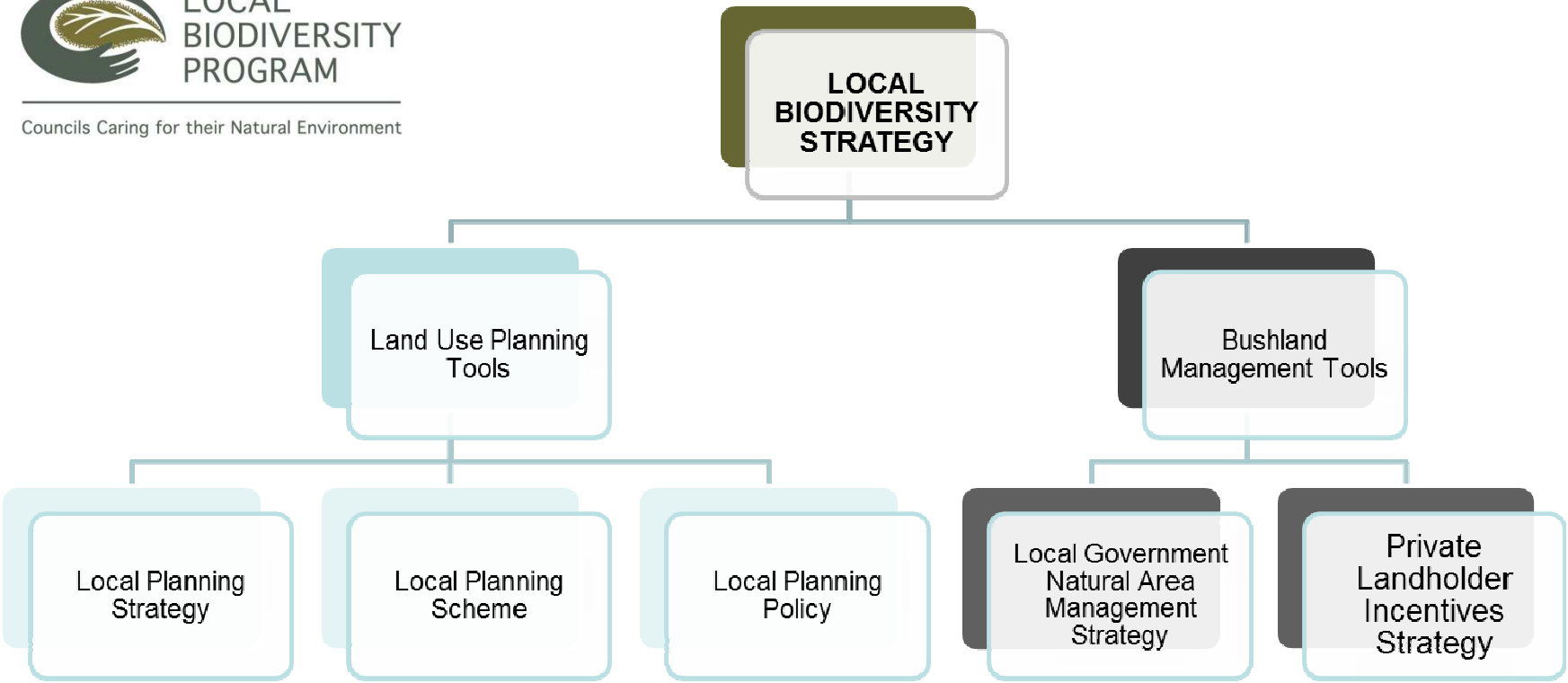

Local Planning Scheme opportunities for biodiversity conservation provisions:

1.Aims of the Scheme
2.Reserves – e.g. conservation (s152(1)(a)
3.Zones and the use of land – objectives & permitted uses
4.General development requirements
5.Special Control Areas – e.g. landscape protection
6.Applications for planning approvals – required information
7.Schedules

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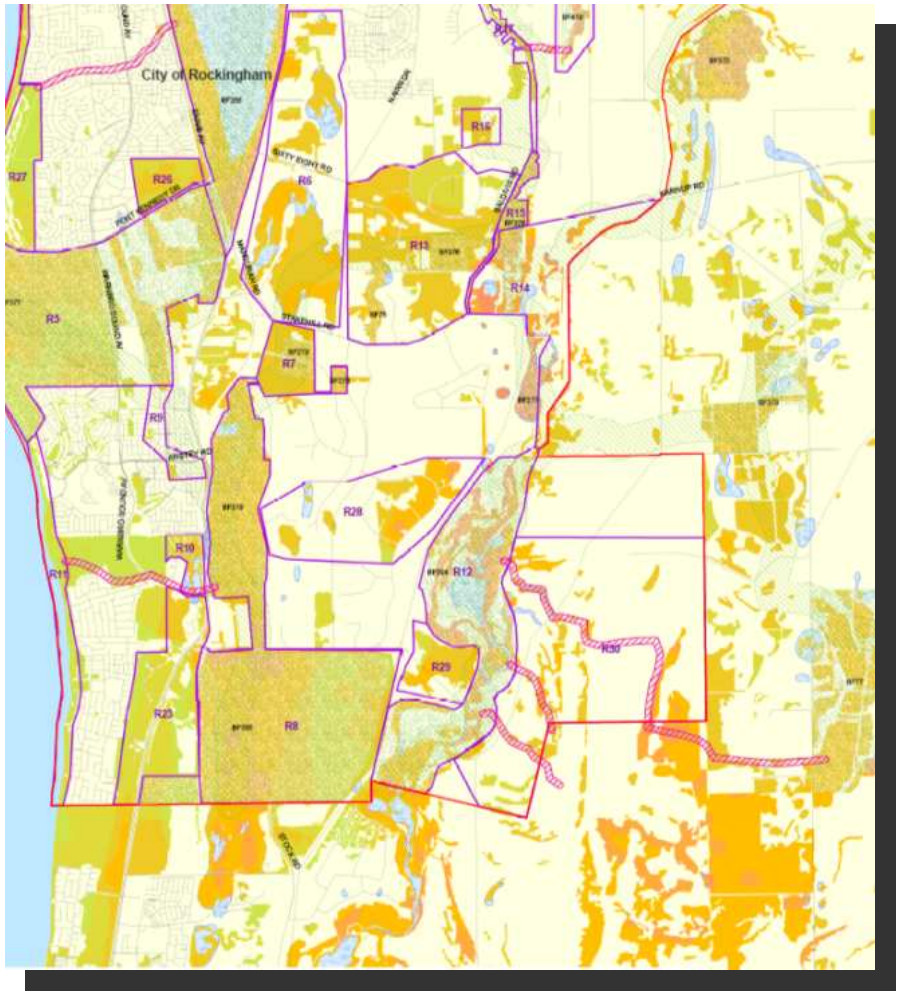
Drafts Areas of Priority Conservation Action for Cross Boundary Initiatives

- Identify areas where **cross boundary cooperation** would provide opportunities to access **external funding** and **prioritise actions at local level** that will contribute to **biodiversity conservation actions at regional level**.

- *It is important to note, that there are numerous natural areas that are considered of high conservation value, but are not included in the draft APCAs in this analysis.*

- *Conservation planning and management of those areas will contribute to the improved status of biodiversity at the regional level, however these actions can be implemented locally by the Local Governments and community groups*.



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USE OF SWMR BIODIVERSITY MAPPING AND AREAS OF CONSERVATION PRIORITY BY EPBC ACT STRATEGIC ASSESSMENT

Regional based information for input into EPBC Act Strategic Assessment Mapping and Sub-regional Structure Plans

- Comparative mapping
- Alignment with MNES and State conservation areas
- Identification of potential offset areas

Checking of complexes with >60% regional extent in the SWMR and assumed <30% retention based on the current MRS & PRS provisions

Recognition of areas identified as APCAs and Regional/Local ecological corridors (potential for conservation, rehabilitation)

Understanding of types of planning and on-ground actions undertaken by Local Government to protect and conserve biodiversity values