Guidance on merging Local Biodiversity Strategies for amalgamating Local Governments:

Expanding a Local Biodiversity Strategy

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Contents

Acronyms and Abbreviations

DPAW	Department of Parks and Wildlife (replaced DEC in 2013)
EPA	Environmental Protection Authority
Guidelines	Del Marco, A., Taylor, R., Clarke, K. Savage, K. Cullity, J. and Miles, C. (2004) *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region.* Western Australian Local Government Association, West Perth Or Molloy, S., O'Connor, T., Wood, J. and Wallrodt, S. (2007) *Addendum for the South West Biodiversity Project Area.* Western Australian Local Government Association and South West Biodiversity Project, West Perth.
NAIA	Natural Area Initial Assessment
NRM	Natural Resource Management
WALGA	Western Australian Local Government Association
WAPC	Western Australian Planning Commission

1.0 Introduction

1.1 Purpose

This document is for Local Governments looking to streamline biodiversity planning following administrative merges with other Local Governments.

This information is also useful to Local Governments working in voluntary regional partnerships. It outlines how to incorporate local biodiversity conservation objectives into regional biodiversity strategies.

1.2 Background

The need to protect biodiversity locally has been recognised by the State Government through environmental and planning policies (WAPC 2010, EPA 2008, State of Western Australia 2000). Numerous Local Governments in the South West of Western Australia developed, adopted and are implementing Local Biodiversity Strategies.

Most Local Governments follow the State endorsed methodology published in the *Local Government Biodiversity Planning Guidelines* (Del Marco *et al.* 2004 and Molloy *et al.* 2007). The Guidelines describe the steps of local biodiversity planning, provide tools for undertaking assessments of biodiversity values, their prioritisation for conservation and outline potential implementation mechanisms. The outcome of the local biodiversity planning process is a local biodiversity strategy.

Between 2005 and 2014, the Western Australian Local Government Association provided assistance to Local Governments with the development and implementation of Local Biodiversity Strategies. Over this period, the format of local biodiversity strategies has evolved and the advantages or gaps of different approaches were demonstrated. It is helpful to be aware of these differences when updating local biodiversity strategies and extending their spatial scope.

There are numerous benefits preparing and implementing a local biodiversity strategy. This is because a local biodiversity strategy:

- Addresses legislative and policy requirements;
- Provides transparency and consistency on how biodiversity will be considered by the Local Government (i.e. what ‘significant’ means locally and where these ‘significant’ areas are);
- Encourages strategic and timely consideration of biodiversity in land use planning;
- Is noted as a valid consideration in land use planning by both the Department of Planning and the State Administrative Tribunal;
- Allows for facilitated community support and engagement for biodiversity management on public and private lands;

- Allows for facilitated strategic allocation of public and private resources management;
- Supports efficient management of Local Government lands for biodiversity; and
- Improves access to external funding for on-ground management of biodiversity.

1.3 How to read this document

This document is divided into three sections.

1. The first section, Chapter 2, describes the components of a local biodiversity strategy prepared in accordance with the *Local Government Biodiversity Planning Guidelines* (Del Marco *et al.* 2004 and Molloy *et al.* 2007). It should be used to guide the structure and content of the updated local biodiversity strategy.

2. Chapter 3 helps outlines the recommended steps to update and expand a local biodiversity strategy. This is in situations when there is a new Local Government boundary, or an area of a regional grouping of Local Governments.

3. Chapter 4 is designed to help readers locate spatial data and other information or tools available.

Each section can be used as a checklist to inform the progress of a local biodiversity strategy update or extension.

4. Elements of Local Biodiversity Strategy

A local biodiversity strategy provides a strategic tool for:

- assessing the biodiversity assets within *local natural areas*;
- prioritising these assets for conservation considering the ecological values and opportunities and constraints to their long-term protection;
- identifying feasible mechanisms for biodiversity conservation; and
- setting out a plan of action including time specific and measurable outcomes.

Local natural areas are natural areas[1] that exist outside of Bush Forever Areas (Swan Coastal Plain portion of the Metropolitan Scheme Region), the Department of Parks and Wildlife managed lands and Regional Parks (Del Marco *et al.*2004). Local natural areas are the focus of local biodiversity strategies and include public and private lands. Documents that address only lands vested in or managed by a Local Government are not Local Biodiversity Strategies.

Table 1 lists and briefly describes the critical elements of a local biodiversity strategy that should form an updated or a new Strategy prepared by a Local Government or a regional grouping of Local Governments.

Table 1: Critical elements of a local biodiversity strategy

Local Biodiversity Strategy elements	Comments	✓
SETTING THE SCENE – benefits of biodiversity conservation, legislative and policy requirements, retention and protection status of biodiversity resources		
Commonwealth and State environmental and planning legislation and policies relevant to biodiversity conservation	These are critical to identifying features with legislative protection, thresholds and setting conservation targets. It is important to check the implications of any new policies, legislation and changes to existing legislation.	
Local Government strategic objectives and plans	Local biodiversity strategies provide tools and actions that contribute to the achievement of local strategic objectives for the natural environment. It is important to demonstrate the link between these documents and the local biodiversity strategy.	

[1] Natural areas are areas that contain native species and communities in a relatively natural state and hence include biodiversity. Natural areas can be areas of native vegetation, vegetated or open water bodies (lakes, swamps), or waterways (rivers, streams, creeks – often referred to as channel wetlands, estuaries), springs, rock outcrops, bare ground (generally sand or mud), caves, coastal dunes or cliffs (adapted from Environmental Protection Authority 2003). Note that natural areas exclude parkland cleared areas, isolated trees in cleared settings, ovals and turfed areas (Del Marco *et al.* 2004).

Identification of the extent of the biodiversity resource	Native vegetation extent is being used as a surrogate for assessing the extent and diversity of ecosystems. It is critical to use the most up to date spatial data and information on vegetation extent at the regional (bio-region[2]) and local scale, records of specially protected flora, fauna and ecological communities.	
Identification of threats to biodiversity	Identify any new datasets that have become available. For example, since the release of the *Local Government Biodiversity Planning Guidelines* in 2004 habitat mapping for Carnaby's black cockatoos and Southern brown bandicoots became available and being included in local natural area prioritisation. Information on threats helps to inform priority local actions and responses to mitigate the impact of these threats.	
Vision, objectives and targets	There should be a clear link between a vision, a broad aspirational statement defining the desired condition of biodiversity for future generations; and objectives and targets. A local biodiversity conservation objective sets out the total amount of natural areas to be protected and retained in a Local Government area in the long-term (20-30years). Biodiversity conservation targets focus on 10-20 year timeframes and focus on several themes, including levels of representation of ecological communities, protection of rare flora, fauna and ecological communities, protection of wetland, streamline, estuarine and coastal vegetation and establishment of ecological linkages. Target setting should be informed by opportunities and constraints analysis. It is recommended that Local Government Resourcing targets are also developed (page 90 and Section 19 (pp. 253-263) in the Guidelines).	
Local Natural Area Prioritisation – Local significance criteria	It is important that local biodiversity strategies follow the standard criteria developed in the *Local Government Biodiversity Planning Guidelines.* This ensures consistent approach across the region that can be supported by the State Government. Appendix A includes an example of the standard criteria where additional criteria were added to address new data that have become available since the publication of the Guidelines.	
Opportunities and constraints analysis	These include: legislative and policy requirements for biodiversity protection, land use provisions in a region and a local planning scheme, vesting purposes of Crown Reserves defined as Local Natural Areas, structure planning, legislative and policy	

[2] Bio-regions are regions defined by a combination of biological, social and geographical criteria, seeking to describe the dominant landscape scale attributes of climate, lithology, geology, landforms and vegetation. They are determined by the Interim Biogeographic Regionalisation for Australia (IBRA) (http://www.environment.gov.au/land/nrs/science/ibra).

	requirements for fire risk management and other land use planning issues.	
Identification of local ecological linkages	In the Perth Metropolitan Region and the South West of Western Australia, regional ecological linkages were identified by WALGA's Biodiversity Projects (Del Marco *et al.* 2004, Molloy *et al.* 2009). The regional linkages connect regionally significant natural areas and provide a framework within which Local Governments can identify local ecological linkages. The local linkages aim to connect locally significant natural areas to other locally and regionally significant areas.	
Areas of Priority Conservation Action (APCA)/Indicative High Conservation Value Areas (IHCVA)-Spatial Plan	The need for these plans was identified after the publication of the *Local Government Biodiversity Planning Guidelines* in 2004 (see *Best Practice Examples of Local Biodiversity Planning*, Perth Biodiversity Project 2012). The APCAs or IHCVAs spatially identify local natural areas where specific actions are being recommended to achieve local biodiversity conservation targets.	
IMPLEMENTATION – identifies mechanisms for achievement of the local biodiversity conservation objectives and targets		
Land use planning tools	Identifies ways of improving provisions for biodiversity in the local planning framework, including the local planning strategy and scheme and a need for local planning policies. Identifies ways of improving formal protection levels of local natural areas, including a list of Crown reserves where changes to the vesting purpose are to be initiated under the *Land Administration Act 1997*.	
Strategic reserve management	Identifies ways of prioritising natural areas vested in a Local Government for management. It is recommended that the ecological values and key threatening processes are recorded for each natural area using the *Natural Area Initial Assessment Templates* (NAIA Templates, see Section 4).	
Private landholder incentives strategy	Identifies an incentives package to support and encourage local natural area conservation on private lands. This element is only relevant to those Local Governments where significant portion of Local Natural Areas is retained on private lands (outer metropolitan, peri-urban and regional local governments).	
Community engagement strategy	Identifies ways of supporting community initiatives focusing on biodiversity conservation such as Friends Groups, Landcare or catchment groups.	

	Identify ways of engaging and communicating with all relevant stakeholders, including the State, development industry, private landholders and users of the local natural areas.	
Integrating biodiversity conservation into the business of local government	Identifies ways of raising the capacity of all Local Government operational units to minimise impact of their activities on biodiversity. For example the prevention of spread of weeds and diseases during road upgrades or maintenance; adoption of a landscaping policy requiring the use of local species in all public spaces or as a development condition.	
ACTION PLAN – provides a list of actions that are linked to the objectives and targets, identifying timeframes for delivery, responsibility and key performance indicators.		

Good examples of local biodiversity strategies and ways of integrating biodiversity into land use planning are discussed in the publications prepared through WALGA's Perth Biodiversity Project in 2012:

- Best Practice Examples of Local Biodiversity Planning
- Guidance for the Integration of Biodiversity Conservation into Local Planning Strategies and Schemes.

Both documents are available through WALGA's the Perth Biodiversity Project website:
http://pbp.walga.asn.au/Publications/IntegrationofBiodiversityintoLocalLandUse.aspx

Appendix B lists Local Governments in the South West of Western Australia that have developed and adopted local biodiversity strategies using the *Local Government Biodiversity Planning Guidelines.* The Strategies are available through most websites of the listed Local Governments.

5. Recommended Procedure for Updating and Expanding Local Biodiversity Strategies

There are three scenarios of local biodiversity conservation planning considered in this section. Two scenarios look at the development of a local biodiversity strategy by merging Local Governments and one developing a regional local biodiversity strategy by a regional group of Local Government.

5.1 Scenario 1 – Local Government with a Local Biodiversity Strategy merging with a Local Government without a Strategy

If a local biodiversity strategy was adopted more than 10 years ago it is recommended that new strategy be prepared for the merged Local Government area. The new local biodiversity strategy should be prepared using the most up-to-date mapping data.

A review of the recommendations in the out-dated local biodiversity strategy is also recommended.

Table 2: Summary of steps towards developing a local biodiversity strategy by merging Local Governments at different stages of local biodiversity planning

Task/Activity	Comments	✓
Seek Council resolution to undertake local biodiversity planning and allocate sufficient resources to allow spatial analysis, preparation of the strategy and stakeholder consultation	It is recommended that about 18 months is allowed for the completion of the biodiversity planning process, including stakeholder consultation. A Local Government Working Group should include staff from the Planning, Environmental and Assets services.	
Establish a Stakeholder Group	The Stakeholder Group should include representatives of relevant State Government agencies, local interest group representatives with understanding of biodiversity issues, a Councillor and representatives of other locally active groups. Adopt a strategy for engagement of representatives of any local Indigenous Groups.	
Identify, map and quantify the extent of natural areas	Check for any differences between mapping used to prepare the existing local biodiversity strategy and the latest spatial information. Where significant differences are identified, update the mapping information that will form the basis for natural area prioritisation.	
Check for changes in the legislation and policies	Legislative and policy provisions for biodiversity define the local significance criteria.	

providing for biodiversity or impacting on biodiversity	Legislation and policies which control activities with potential degrading effect on biodiversity need to be taken into account when setting conservation targets. An example of legislation and policies relevant to local biodiversity conservation in the Perth Region in 2015 is available in Appendix C.	
Review the local significance criteria and adopt criteria for the new Local Government area	Undertake the review through the Stakeholder Committee. Check for any new datasets that could inform the criteria. Check for data updates of any existing criteria. Adopt the updated local significance criteria and prepare mapping of local natural areas using the new criteria. An example of prioritisation criteria used in the Perth and Peel regions is in Appendix A.	
Assess the land use provisions for biodiversity	Identify any gaps or opportunities for strengthening provisions for biodiversity retention and protection within the merged Local Government area. Review all approved structure plans and subdivision plans to identify vegetated areas to be retained as a condition of development. Identify any structure plan areas where a review of conditions can be initiated. Identify Crown reserves with natural areas where opportunities exist to formalise their long-term protection via change of vesting purpose under the *Land Administration Act 1997* and local reserve classification in the local planning scheme.	
Extend local ecological linkages to the whole merged Local Government	Review the continued feasibility of local ecological linkages identified in the existing local biodiversity strategy. Extend the network of local ecological linkages to the whole new Local Government area. The methodology for identification of local ecological linkages is described in the Guidelines Update (WALGA 2015).	
Develop local biodiversity conservation objectives and targets	Review the progress towards achieving the objectives and targets adopted in the existing local biodiversity strategy. Develop objectives and targets that apply to the whole area of the new Local Government.	
Identify Areas of Priority Conservation Action (APCA)/Indicative High Conservation Value Areas (IHCVA)-Spatial Plan	Review APCAs identified in the existing local biodiversity strategy. Through the Stakeholder Committee, agree on criteria for APCA selection.	

	Prepare a spatial plan covering the new Local Government area.	
Identify actions required to integrate biodiversity into the new local land use planning framework	These actions can include a review of local planning strategy to include the spatial plan and new provisions for biodiversity; local planning scheme amendments to provide for consistent provisions for biodiversity across the new Local Government area; and development of a local planning policy providing guidance on various aspects of integrating biodiversity into land use planning.	
Prioritise Local Government reserves for management	Undertake ecological assessment of all natural area reserves managed by Local Government using the NAIA Templates (see Section 4). Prioritise all Local Government reserves for management. Refer to *Local Government Guidelines for Bushland Management* for further information (see Section 4 of this document).	
Identify actions required to develop a private landholder incentives program	A local biodiversity can discuss incentives being considered by a Local Government and adopt an action to develop a program during the first 5 years of implementations of the local biodiversity strategy. Alternatively, a survey of private landholders can be conducted during the development of the local biodiversity strategy to inform decisions regarding incentives that are likely to be taken up by the private landholders in the new Local Government area. Then the local biodiversity strategy can identify specific actions required for setting up the private landholder incentives program.	
Identify actions to increase community engagement and streamlining biodiversity into all Local Government operation	Examples of actions are available in the *Local Government Biodiversity Planning Guidelines* and in adopted local biodiversity strategies (see Appendix B of this document).	
Develop a 5-10 year action plan	Prioritise actions, identify responsibilities for implementation and develop key performance indicators Include public reporting and periodic reviews.	
Seek Council approval to release the draft local biodiversity strategy for public comment	For local biodiversity conservation objectives to be recognised by the State, the local biodiversity strategy should be advertised in the same way as a local planning scheme amendment. The WAPC will not be endorsing a local biodiversity strategy but will endorse a local planning strategy and a scheme which integrates biodiversity considerations in accordance with recommendations of the Council endorsed local biodiversity strategy.	

Release the draft local biodiversity strategy for public comment	Advertise the release of the draft local biodiversity strategy for public comment. Consider holding a community consultation session for the community. Seek comments from key State Government agencies.	
Adopt the final local biodiversity strategy	Following a review and if required the amendment of the draft strategy to reflect issues raised during public consultation where justified and seek the Council endorsement of the local biodiversity strategy.	

5.2 Scenario 2 – Merging Local Governments each with a Local Biodiversity Strategy

In instances where merging Local Governments each have a local biodiversity strategy they are implementing at the time of merging, the approach to an update will depend on the differences in methodology and the time since adoption.

Following the merge, it is recommended to undertake a review of adopted or draft local biodiversity strategies. The main elements to check for are:

- the local significance criteria (if prepared in accordance with the Guidelines these should be consistent);
- to what extent local ecological linkages considered natural areas in adjoining Local Governments;
- the format of the spatial plan of the Areas of Priority Conservation Action or Indicative High Conservation Value Areas; and
- the type of implementation actions, in particular the provisions for biodiversity in the local planning framework.

Even if significant differences are observed in the format of the spatial plan, development of the new local biodiversity strategy can be held off until about 12 months before the new Local Government is ready to develop its local planning strategy. It is reasonable to assume that many implementation actions will be similar and therefore continuing implementation of identical actions for one or two years after merging should be feasible.

Figure 1 summarises the main steps in merging implementation of two local biodiversity strategies before adopting a local biodiversity strategy for the new Local Government area.

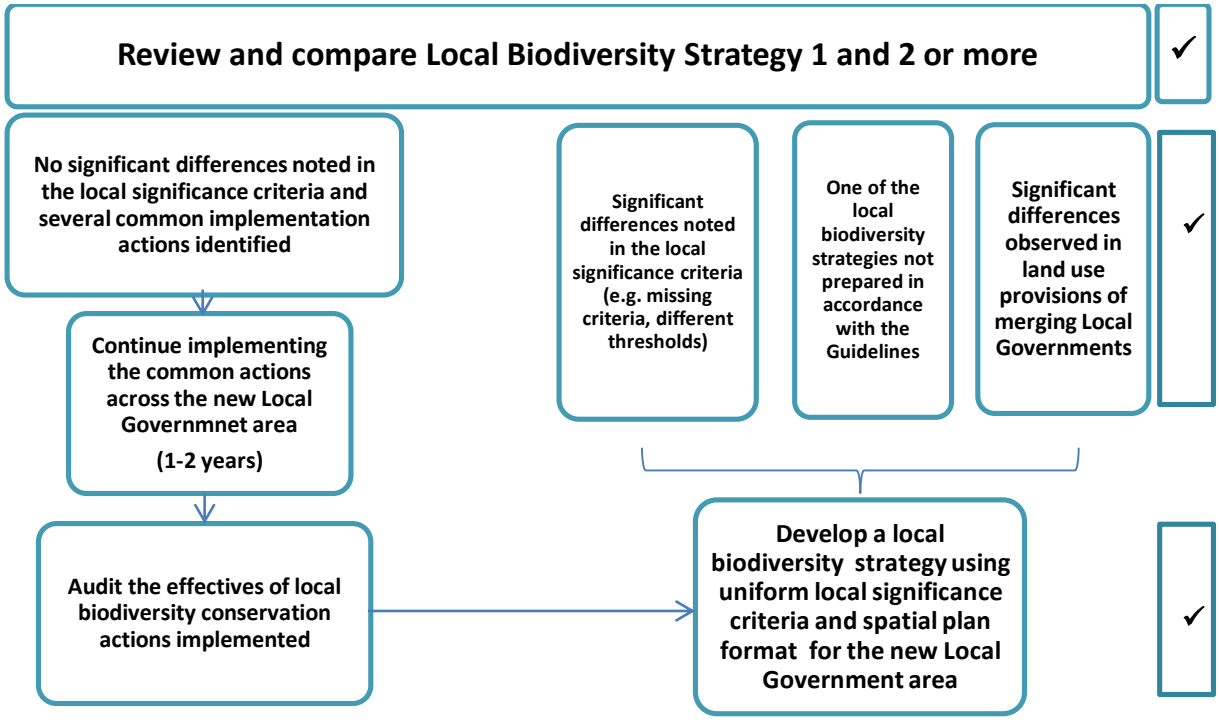

Figure 1: Local biodiversity planning in merging Local Governments with current local biodiversity strategies.

To guide the development of the new local biodiversity strategy, refer to the *Local Government Biodiversity Planning Guidelines Update* (WALGA 2015) or the summarised version of the process described in the section 3.1 of this document.

5.3 Scenario 3 - Regional grouping of Local Governments developing a regional Local Biodiversity Strategy

There are several benefits to undertaking local biodiversity planning in partnership with adjoining Local Governments. They include opportunities to form partnerships for coordinated and cost effective weed and feral animal control across Local Governments and opportunities to establish effective ecological linkages.

Preparation of collective or sub-regional local biodiversity strategies should follow the local biodiversity planning methodology adopted by individual Local Governments. Criteria for local natural area prioritisation are applied across the whole study area for the group of Local Governments. However, the assessment of opportunities and constraints to biodiversity conservation has to be considered for each Local Government separately as there are differences in provisions for biodiversity in local planning frameworks. The findings of the opportunities and constraints analysis will inform the selection of implementation mechanisms for each Local Government. Some recommendation will apply to all participating Local Governments and some will be specific to individual Local Governments.

For example, a recommendation to seek change of reserve purpose under the *Land Administration Act 1997* to include conservation will be made for a list of selected reserves within each participating Local Government. A recommendation to introduce a conservation type zoning into a local planning scheme will only be relevant to Local Governments with significant local natural areas on privately owned rural lands. Therefore the action plan in a collective or sub-regional local biodiversity strategy will include actions to be implemented by all participating Local Governments as well as Local Government specific actions.

Table 3: Summary of steps towards developing a collective local biodiversity strategy

Task/Activity	**Comments**	✓
Seek Council resolution from each member Local Government to undertake local biodiversity planning and allocate sufficient resources to allow spatial analysis, preparation of the strategy and stakeholder consultation	It is recommended that about 18 months is allowed for the completion of the biodiversity planning process, including stakeholder consultation.	
Establish a Working Group	The Working Group should include representatives of each member Local Government and at relevant stages of planning invite representatives from relevant State Government agencies, local interest group representatives with understanding of biodiversity issues, a Councillor from each member Local Government and representatives of other locally active groups. A Working Group representative from each Local Governments should regularly consult with staff from the Planning, Environmental and Assets services during the development of the strategy.	
Identify, map and quantify the extent of natural areas	Check for any differences between mapping used to prepare existing local biodiversity strategies and the latest spatial information.	
Check for changes in the legislation and policies providing for biodiversity or impacting on biodiversity	Legislative and policy provisions for biodiversity define the local significance criteria. Legislation and policies which control activities with potential degrading effect on biodiversity need to be taken into account when setting conservation targets. An example of legislation and policies relevant to local biodiversity conservation in the Perth Region in 2015 is available in Appendix C.	

Review the local significance criteria an adopt criteria for the new Local Government area	Undertake the review through the Working Group to ensure support for the criteria by all participating Local Governments. Check for any new datasets that could inform the criteria. Check for data updates of any existing criteria. Adopt the updated local significance criteria and prepare mapping for the study area.	
Assess the land use provisions for biodiversity	Identify any gaps or opportunities for strengthening provision for biodiversity retention and protection within each member Local Government. Review all approved structure and subdivision plans to identify vegetated areas to be retained as a condition of development. Identify Crown reserves with natural areas where opportunities exist to formalise their long-term protection via change of vesting purpose and local reserve classification in the local planning scheme.	
Extend local ecological linkages to the area covered by the regional grouping of Local Governments	Review the continued feasibility of local ecological linkages identified in any existing local biodiversity strategies. Extend the network of local ecological linkages to the area covered by the regional grouping of Local Governments.	
Develop a vision, local biodiversity conservation objectives and targets	Review the progress towards achieving the objectives and targets adopted in any existing local biodiversity strategies. Develop a vision, objectives and targets that apply to the area covered by the regional grouping of Local Governments.	
Identify Areas of Priority Conservation Action (APCA)/Indicative High Conservation Value Areas (IHCVA)-Spatial Plan	Review APCAs identified in any existing local biodiversity strategies. Through the Working Group, agree on criteria for APCA selection. Prepare a spatial plan with recommendations for each APCA.	
Identify actions required to integrate biodiversity into the local land use planning framework for each participating Local Government	These actions can include: • a review of local planning strategies to include the spatial plan and new provisions for biodiversity; • local planning scheme amendments to provide for consistent provisions for biodiversity across member Local Governments; or • development of local planning policies by individual members of the regional group providing guidance on	

	various aspects of integrating biodiversity into land use planning.	
Prioritise Local Government reserves for management	Where required, initiate ecological assessment of all natural area reserves managed by Local Government using the NAIA Templates. (See Section 4). Prioritise all Local Government reserves for management. Refer to *Local Government Guidelines for Bushland Management* for further information (see Section 4 of this document).	
Identify actions required to develop a private landholder incentives program	This action might not be relevant for all member Local Governments. Only those with significant area of local natural areas on private land should consider it. A local biodiversity strategy can discuss incentives being considered by a Local Government and adopt an action to develop the program during the first 5 years of implementations of the local biodiversity strategy. Alternatively, a survey of private landholders can be conducted during the development of the local biodiversity strategy by participating Local Governments to inform decisions regarding incentives that are likely to be taken up by the private landholders. Then the collective local biodiversity strategy can identify specific actions required for setting up the private landholder incentives program.	
Identify actions to increase community engagement and streamlining biodiversity into all Local Government operation	Examples of actions are available in the *Local Government Biodiversity Planning Guidelines* and in adopted local biodiversity strategies (see Appendix B of this document).	
Develop a 5-10 year action plan	Prioritise actions, identify responsibilities for implementation and develop key performance indicators. Include public reporting and periodic reviews.	
Seek Council approval to release the draft collective local biodiversity strategy for public comment	For local biodiversity conservation objectives to be recognised by the State, the local biodiversity strategy should be advertised in the same way as a local planning scheme amendment. The WAPC will not be endorsing a local biodiversity strategy but will endorse a local planning strategy and a scheme which integrates biodiversity considerations in accordance with recommendation of the Council endorsed local biodiversity strategy. Each member Local Government should endorse the collective local biodiversity strategy.	

Release the draft collective local biodiversity strategy for public comment	Advertise the release of the draft local biodiversity strategy for public comment. Consider holding a community consultation session. Seek comments from key State Government agencies.	
Adopt the final local biodiversity strategy	Following a review and if required amendment of the draft strategy, seek the Council endorsement of the collective local biodiversity strategy by each member Local Government.	

Since the release of the Guidelines, three groups of Local Governments undertook local biodiversity planning in partnerships:

- The Cities of Belmont and Bayswater and the Town of Bassendean developed a collective local biodiversity strategy. It was adopted by each Local Government in 2010. The main focus of the collective local biodiversity strategy is on identifying opportunities for establishing ecological linkages through revegetation of cleared areas. All three Local Governments are located in the inner metropolitan region where little native vegetation remains as local natural areas.
- The City of Greater Geraldton and the Shire of Chapman Valley prepared a local biodiversity strategy which focused on the costal portions under greatest development pressure. Both Local Governments adopted the Strategy in 2013.

The South West Group, a regional grouping of six metropolitan Local Governments, developed a strategic plan for the establishment of ecological linkages across the study area. While the plan focuses on improving landscape connectivity, to achieve this objective, the ecological values of local natural areas had to be assessed, opportunities and constraints to natural area retention and revegetation determined and recommendations for implementation for each member Local Government identified. The plan incorporates local biodiversity conservation objectives adopted by member Local Government, the City of Kwinana, the only one with a local biodiversity strategy.

6. Tools and Resources

Type	Data/Information source	✓
Mapping data relevant to biodiversity planning	WALGA's online *Environmental Planning Tool* includes a comprehensive list of mapping data relevant to local biodiversity conservation mapping, including information regarding relevant data custodians to assist with the sourcing of the most up-to-date datasets. The Environmental Planning Tool is available through annual subscriptions. Contact WALGA: Environment Policy Manager, ph. (08)9213 2039	
Statistics on the status of vegetation retention and protection in a region and within a Local Government	Vegetation extent by vegetation complexes (as mapped by Heddle *et al* 1980 and Havel and Mattiske 2000) are used as the main datasets for local biodiversity planning. Vegetation retention and protection status statistics by biogeographic regions were published through WALGA's Local Biodiversity Program in 2012. Statistics for vegetation retention and protection status for selected Local Governments were published by WALGA's Perth Biodiversity Project in 2011. Both datasets are available through the WALGA's website: http://pbp.walga.asn.au/Publications.aspx An update of Local Government vegetation extent statistics should be incorporated into cost of developing a local biodiversity strategy.	
Local significance criteria	Local Government Biodiversity Planning Guidelines Update (WALGA 2015) Del Marco, A., Taylor, R., Clarke, K. Savage, K. Cullity, J. and Miles, C. (2004) *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region.* Western Australian Local Government Association, West Perth http://pbp.walga.asn.au/Publications/LocalGovernmentBiodiversityPlanningGuidelines.aspx Molloy, S., O'Connor, T., Wood, J. and Wallrodt, S. (2007) *Addendum for the South West Biodiversity Project Area.* Western Australian Local Government Association and South West Biodiversity Project, West Perth. http://www.walga.asn.au/AboutWALGA/Policy/SouthWestBiodiversityProject.aspx Level 1 Prioritisation criteria for Perth and Peel (In Explanatory Notes, Environmental Planning Tool) – updated annually	
Identification of local ecological linkages	Perth Metropolitan Region: Del Marco, A., Taylor, R., Clarke, K. Savage, K. Cullity, J. and Miles, C. (2004) *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region.* Western Australian Local Government Association, West Perth http://pbp.walga.asn.au/Publications/LocalGovernmentBiodiversityPlanningGuidelines.aspx South West of Western Australia:	

	Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) *South West Regional Ecological Linkages Technical Report,* Western Australian Local Government Association and Department of Environment and Conservation, Perth. http://www.walga.asn.au/AboutWALGA/Policy/SouthWestBiodiversityProject/SouthWestRegionalEcologicalLinkagesTechnicalReport.aspx Connectivity modelling – Perth and Peel regions – see layers in the Environmental Planning Tool: http://lbp.asn.au/index_public.html The above listed documents outline the general principles used when identifying local ecological linkages.	
Integration of biodiversity into local land use planning	• Best practice examples of local biodiversity planning • Guidance for the integration of biodiversity conservation into local planning strategies and schemes. • Summary of WAPC publications relevant to local biodiversity planning. All three documents are available through the Perth Biodiversity Project website: http://pbp.walga.asn.au/Publications/IntegrationofBiodiversityintoLocalLandUse.aspx State of Western Australia (2011) Directions Paper on the Integration of NRM into Land Use Planning. Western Australian Planning Commission, Perth. http://www.planning.wa.gov.au/dop_pub_pdf/nRM_report.pdf	
NAIA Templates	Natural Area Initial Assessment (NAIA) Templates – templates for consistent assessment of ecological values of local natural areas to inform their prioritisation for conservation and management. http://pbp.walga.asn.au/Tools/NaturalAreaInitialAssessmentTemplates.aspx	
Local Natural Area Management	Local Government Guidelines for Bushland Management in the Perth and Coastal South West NRM Regions of Western Australia (2009) http://pbp.walga.asn.au/Publications/LocalGovernmentGuidelinesforBushlandManagement.aspx	

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APPENDIX A: An example of local natural area prioritisation criteria

Source: *Regional Framework for Local Biodiversity Conservation Priorities for Perth and Peel Level 1 Prioritisation Criteria* (Zelinova *et al.* 2012)

Key to a Priority Field in the on-line model	**Criteria**	**Spatial data representation of remnant vegetation extent within the following categories**	**Data custodian and currency***
	Representation – Regional		
P1_1	Recognised international, national or regional conservation value	DPaW Conservation Estate: National Park, Nature reserve, Conservation park, Section 5 (1) (g)	DPaW, 2014
		DPaW Regional Parks	DPaW, 2010
		Bush Forever Sites	Department of Planning, 2011
		Peel Regionally Significant Natural Areas	EPA, 2010
		Fauna Habitat Zone	DPaW, 2013
		DPaW Conservation Covenants	DPaW, 2013
		Ramsar wetlands	DPaW, 2009
		Directory of Important Wetlands	Auslig, 2002
P1_2a	Of an ecological community with only 1500 ha or 30% or less remaining and <10% protected (formal) in the IBRA sub-region (here we use <or=40%))	2014 Vegetation extent by vegetation complexes: Bassendean complex Central & South, Beermullah, Cannington, Coolakin, Dardanup, Cottesloe Central & South, Dardanup, Forrestfield, Guildford, Karrakatta Central & South, Karrakatta -North, Mogumber South, Pinjar, Reagan, Serpentine River, Southern River, Swan, Vasse, Yanga	Local Biodiversity Program, 2014
P1_2b	Of an ecological community with only 1500 ha or 30% or less remaining in the IBRA sub-region (here we use <or=40%)	2014 Vegetation extent by vegetation complexes: Dardanup, Bassendean complex Central & South, Beermullah, Cannington, Coolakin, Cottesloe Central & South, Dardanup, Forrestfield, Guildford, Herdsman, Karrakatta Central & South, Karrakatta - North, Mogumber South, Pinjar, Reagan, Serpentine River, Southern River, Swan, Vasse, Yanga, Yoongarillup	

P1_2c	Of an ecological community with 90-100% of its original proportion of the original extent occurs within the study area	2014 Vegetation extent by vegetation complexes: Beermulah, Cannington, Cottesloe Central and South, *Forrestfield, Herdsman, Pinjar, Helena 2*	
P1_2d	Of an ecological community with 60-89% of its original proportion of the original extent occurs within the study area	*2014 Vegetation extent by vegetation complexes: Bassendean Central and South, Guildford, Karrakatta Central and South, Serpentine River, Swan, Darling Scarp, Quindalup, Dwellingup D2, Helena 1*	Local Biodiversity Program, 2014
P1_3	Large (greater than 20ha) natural areas	Remnant vegetation in patches greater than 20ha.	
P1_4	Of an ecological community with only 1500 ha or 15% or less **protected** for conservation in the Jarrah Forest sub-region	2014 Vegetation extent by vegetation complexes: Cooke, Coolakin, DwelingupD1-D4, Darling Scarp, Murray 2, Pindalup, Yalanbee 5, Yalanbee6, Yarragil 1, Yarragil2	
P1_5	Of an ecological community with only 400 ha or 10% or less **protected** for conservation on the SCP portion of Perth and Peel	2014 Vegetation extent by vegetation complexes: Bassendean Central and South, Beermullah, Cannington, Coonambidgee, Cottesloe Central and South, Dardanup, Forrestfield, Guildford, Karrakatta Central & South, Mogumber-South, Pinjar, Quindalup, Reagan, Serpentine River, Southern River, Swan, Yanga	
	Rarity		
P3_1	Of an ecological community with only 1500 ha or 10% remaining in the IBRA sub-region	2014 Vegetation extent by vegetation complexes: Beermullah, Cannigton, Dardanup, Forrestfield, Guildford, Pinjar, Serpentine River complex, Swan Complex,	Local Biodiversity Program, 2014
P3_2	Of an ecological community with only 400 ha or 10% or less remaining in the Bush Forever and Peel section of the Swan Bioplan Areas	2014 Vegetation extent by vegetation complexes: Beermullah, Cannigton, Coonambidgee, Dardanup, Forrestfield, Guildford, Mogumber South, Reagan, Serpentine River complex, Swan Complex	
P3_3, P3_4, P3_5, P3_6, P3_7, P3_8	Rare features	Threatened and priority flora, fauna or ecological communities and their buffers	DPaW, August 2014

P3_9a	Significant habitat for significant fauna	Areas requiring investigation for Carnaby's cockatoo feeding habitat (Swan Coastal Plain)	DPaW, 2011
		Areas requiring investigation for Carnaby's cockatoo feeding habitat (Jarrah Forest)	
P3_9b		Carnaby's Cockatoo habitat - breeding sites (confirmed & possible) with 12 km buffer	
P3_9c		Carnaby's Cockatoo habitat - roosting sites (confirmed & unconfirmed) with 6 km buffer	
P3_9d		Western Swamp Tortoise Critical Habitat Policy Area (EPP 2010)	EPA, 2012
P3_10	Contains other significant flora	Significant flora - range ends and disjunct populations; Swan Coastal Plain endemics based on Gibson et al 1994	Perth Biodiversity Project, 2011
		Tuart woodlands	DPaW, 2003
P3_11	Or other significant fauna	Decliner Bird Species	Perth Biodiversity Project, 2011
	Maintaining ecological processes or natural systems – connectivity		
P4_1	Natural areas acting as stepping stones in a regionally significant ecological link	Connectivity layer - current remnant vegetation that touches the Perth Metropolitan Region Regional Ecological Linkages or South West Regional Ecological Linkages 500m wide axis line (plus three additional lines from working group meeting in the Peel Region)	Local Biodiversity Program, 2014
	Protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation		
P5_1	Remnant vegetation within Conservation Category Wetlands plus 50m buffer	Geomorphic wetland mapping	DPaW, 2013
P5_1b	Remnant vegetation within Resource Enhancement Wetlands plus 50m buffer	Geomorphic wetland mapping	DPaW, 2013

P5_2	Remnant vegetation within Environmental Protection Policy (Swan Coastal Plain Lakes) 1992 plus 50m buffer	epp_1992_scp_lakes_policy_boundaries	DPaW, 2006
P5_3	Riparian vegetation	riparian vegetation surrogate - hydro lines buffered and used to intersect with current remnant vegetation	Local Biodiversity Program, 2014
P5_4	Floodplain area	floodplain areas	Local Biodiversity Program, 2014
P5_5	Estuarine area	hydrography - estuarine	Local Biodiversity Program, 2014
P5_6	Coastal vegetation on foredunes and secondary dunes	Q3 and Q4 units in the Soil Landscape Units Remaining Quindalup Soil Landscape Units within 150m from the coastline	Local Biodiversity Program, 2014
	Representation – Local		
P6_1	Of an ecological community with 10% or less remaining within Local Government area	2014 remnant vegetation extent by vegetation complexes within each Local Government in the Perth and Peel Scheme Regions	Local Biodiversity Program, 2014
P6_2	Of an ecological community with 30% or less remaining within a Local Government area	2014 remnant vegetation extent by vegetation complexes within each Local Government in the Perth and Peel Scheme Regions	Local Biodiversity Program, 2014

APPENDIX B: List of Local Governments that developed and adopted a local biodiversity strategy between 2005-2015

Numerous Local Governments in the South West of Western Australia have adopted or are developing a Local Biodiversity Strategy in accordance the *Local Government Biodiversity Planning Guidelines* (Del Marco *et al.* 2004, Molloy *et al.* 2007).

In the Perth and Peel region, Local Governments that have adopted a local biodiversity strategy are (To download a Local Biodiversity Strategy document follow the links to Local Government's websites):

- City of Armadale
- Shire of Kalamunda
- City of Kwinana (not available from the City's website)
- Shire of Mundaring
- Shire of Serpentine-Jarrahdale
- City of Stirling
- City of Wanneroo
- City of Mandurah
- Shire of Murray.

Local Governments that have spatially identified where local biodiversity conservation objectives for representative vegetation complexes could be achieved or developed a spatial plan are highlighted in bold.

City of Bayswater, Town of Bassendean and City of Belmont adopted a Collective Local Biodiversity Strategy. While no specific retention or protection targets were identified for representative vegetation within these three Local Governments, the Collective Local Biodiversity Strategy identifies local ecological linkages, aiming to improve connectivity between protected natural areas within these highly urbanized Local Governments by restoration of degraded areas along waterways and local reserves.

The **South West Group**, a regional group of six member Local Governments, developed a regional strategy towards improving landscape connectivity within the Cities of Cockburn, Fremantle, Kwinana, Melville and Rockingham and the Town of East Fremantle. The study incorporates local biodiversity conservation objectives adopted by one member Local Government and provides a good example of how Local Government specific issues and differing provisions for biodiversity can be considered in

developing a regional plan for biodiversity conservation. A copy of the report is available from the South West Group.

City of Swan was the first Local Government to adopt a Local Biodiversity Strategy in 2005. While the strategy does not specify targets for representative vegetation types or other biodiversity features, it identifies local ecological linkages and 'Priority areas for further investigation".

Outside the Perth and Peel Region Scheme areas there are several Local Governments that have adopted a Local Biodiversity Strategy:

- City of Greater Geraldton
- Shire of Chapman Valley
- Shire of Chittering.

The following Local Governments released draft local biodiversity strategies:

- Shire of Dardanup
- City of Bunbury
- Shire of Harvey
- Shire of Northam

The information in this section was correct at the time of writing.

APPENDIX C: An overview of key statutory, strategic and policy framework for local biodiversity conservation in the City of Canning (May 2015)

Statutory mechanisms/Legislation	Key strategic and policy documents
Commonwealth	
Environmental Protection and Biodiversity Conservation Act 1999	• Australia's Biodiversity Conservation Strategy 2010-2030 • National Wildlife Corridors Plan (2012)
Western Australia	
Environmental Protection Act 1986 and the related Environmental Protection (Clearing of Native Vegetation) Regulations 2004 *Wildlife Conservation Act 1950* *Biosecurity And Agriculture Management Act 2007* *Swan and Canning Rivers Management Act 2005* *Conservation and Land Management Act 1984*	• EPA Position Statement No. 2: Environmental Protection of Native Vegetation in Western Australia (EPA, 2000) • Environmental Protection Bulletin No 20: Protection of naturally vegetated areas through planning and development (EPA, 2013) • EPA Guidance Statement No. 33: Environmental Guidance for Planning and Development (EPA, 2008) • Environmental Protection Swan Coastal Plain Lakes Policy 1992 • EPA Position Statement No.4: Environmental Protection of Wetlands • Environmental Protection Bulletin No. 1 – Environmental Offsets-Biodiversity
Planning and Development Act 2005	• Statement of Planning Policy No. 2: Environment and Natural Resources Policy (SPP2) (WAPC 2003) • Statement of Planning Policy No. 2.3: Jandakot Groundwater Protection Policy (WAPC 1998, under review) • Statement of Planning Policy No 2.8: Bushland Policy for the Perth Metropolitan Region (WAPC 2010) • Statement of Planning Policy No. 2.10: Swan-Canning River System (WAPC 2006)