



Environmental Protection Bulletin No. 20

Protection of naturally vegetated areas through planning and development

Naturally vegetated areas in Western Australia's cities and towns support significant biodiversity and provide important amenity to urban residents.

Purpose of this bulletin

This bulletin sets out the EPA's views and expectations for the design of urban and peri-urban development proposals in order to protect naturally vegetated areas.

It will help planners and developers in the integration and consideration of naturally vegetated areas during all stages of the planning process, to meet the EPA's environmental objectives for vegetation and flora, and terrestrial fauna.

This bulletin applies to strategic planning, structure plans, new schemes and scheme amendments, subdivision and development proposals, in urban and peri-urban areas of Western Australia.

It complements the principles set out in Guidance Statement 10 (EPA, 2006), Bush Forever (WAPC, 2000 and WAPC, 2010), the Clearing Principles in Schedule 5 of the *Environmental Protection Act 1986*, Guidance Statement 33 (EPA, 2008) and Liveable Neighbourhoods (WAPC, 2007).

Background

Urban and peri-urban areas in Western Australia contain many areas of natural vegetation. They provide significant habitat for flora and fauna, but also provide amenity, landscape and recreational value for the community.

Western Australia hosts some of Australia's most important biodiversity assets. It is home to eight of Australia's 15 declared biodiversity hotspots, five of which are encompassed within the broader South West Australia ecoregion, an internationally recognised biodiversity hotspot stretching from Carnarvon down to Esperance and through to the South Australian border.

The number of species, especially flora, in Western Australia is enormous by most international comparisons. There are currently 12,307 known species of native plants in WA, with more being discovered regularly. It is one of the few places in the world where large amounts of landmass have not been covered by sea or glaciers for more than 250 million years. This has resulted in reduced extinction rates and the persistence of ancient lineages of plants and animals. The complex heterogeneity of the State's soils supports a very wide range of flora, many species of which flourish in soils characterised by very low levels of nutrients and moisture.

Ongoing demand for new housing and infrastructure in urban and peri-urban areas of Western Australian cities and towns will have a potentially significant impact on remaining naturally vegetated areas. These areas may be subject to the impacts of direct clearing through urban expansion and the indirect impacts of fragmentation and disturbance from adjacent land uses.

Urban areas are those in which a broad range of activities are undertaken, including residential, commercial, recreational and light industry.

Peri urban areas contain a mix of rural, rural lifestyle and urban uses near cities and towns. They are generally areas of high demand for urban expansion as well as development of rural small holding, rural residential and other rural lifestyle land uses.

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The EPA considers that land use planning has an important role in protecting and maintaining naturally vegetated areas in urban and peri-urban environments. It recommends greater emphasis on appropriately protecting these areas at all stages of the planning process.

Currently, many of the proposed structure plans and scheme amendments referred to the EPA do not adequately consider the protection of naturally vegetated areas and, if implemented, would result in significant loss of these areas and the biodiversity and amenity value they support.

The EPA's objectives and regionally significant natural areas

"Flora and vegetation" and "Terrestrial fauna" are the main environmental factors related to natural areas. The EPA's objectives for these factors are:

Flora and vegetation: *to maintain representation, diversity, viability and ecological functions at the species, population and community level.*

Terrestrial fauna: *to maintain representation, diversity, viability and ecological function at the species, population and assemblage level.* (EPA, 2013)

While all naturally vegetated areas have environmental and amenity values, the EPA is primarily concerned with the protection of regionally significant natural areas.

The EPA has developed criteria for the identification of regionally significant natural areas which can be used across Western Australia. The criteria are (EPA, 2003, 2006, 2008):

- adequate representation of the range of ecological communities
- areas with a high diversity of landforms, flora and /or fauna species or communities
- areas containing rare or threatened species or communities
- maintaining ecological processes or natural systems
- areas of scientific or evolutionary importance, and
- areas of wetland, streamline and estuarine fringing vegetation and coastal vegetation.

The EPA's role and expectations for protecting natural areas

The EPA decides whether a land use planning or development referral requires assessment on the basis of whether it is likely to meet its environmental objectives for relevant environmental factors.

In determining whether a referral should be assessed, the EPA also has regard for other statutory processes which can regulate the mitigation of potential effects on the environment to meet its objectives. In relation to planning schemes and urban development proposals, Schedule 7 of the *Planning and Development Act 2005* provides for the preservation and conservation of the natural environment through State Planning Policies (SPPs), regional and local planning schemes and conditions of subdivision (WAPC, 2011). The EPA expects that its objectives for flora and vegetation and terrestrial fauna will be met through these statutory decision making processes.

In cases where a land use planning referral is not assessed, the EPA may provide public advice on the relevant environmental issues which should be considered, including naturally vegetated areas. Generally, the EPA will focus its public advice on issues related to regionally significant natural areas and other significant environmental issues. The EPA expects that local authorities and planning agencies will use their best endeavours to ensure that the advice is incorporated into the relevant plan, scheme or development.

Regardless of whether or not the EPA assesses or provides advice on a referral, planning authorities should also take account of and seek to protect the values of naturally vegetated areas through the planning process.

Consideration of environmental issues through the planning framework

The land use planning and development system in Western Australia is a hierarchical (or tiered) planning framework through which protection of naturally vegetated areas can be achieved. Various statutory and non-statutory processes are involved in the planning framework.

The EPA expects protection of naturally vegetated areas to be considered as early as possible in the planning process, and addressed at each stage of planning.

Figure 1 illustrates the various stages in the planning framework and the matters related to the protection of natural areas that are most appropriately considered at the different stages.

Environmental outcomes will generally be more efficient and effective when broad regional and district scale environmental issues are considered through strategic planning, and detailed site specific environmental matters are dealt with during detailed stages of the planning process. Broad and strategic environmental issues are difficult to resolve when the assessment of environmental impacts is left to the rezoning and subdivision stages of land use planning.

Strategic planning is able to:

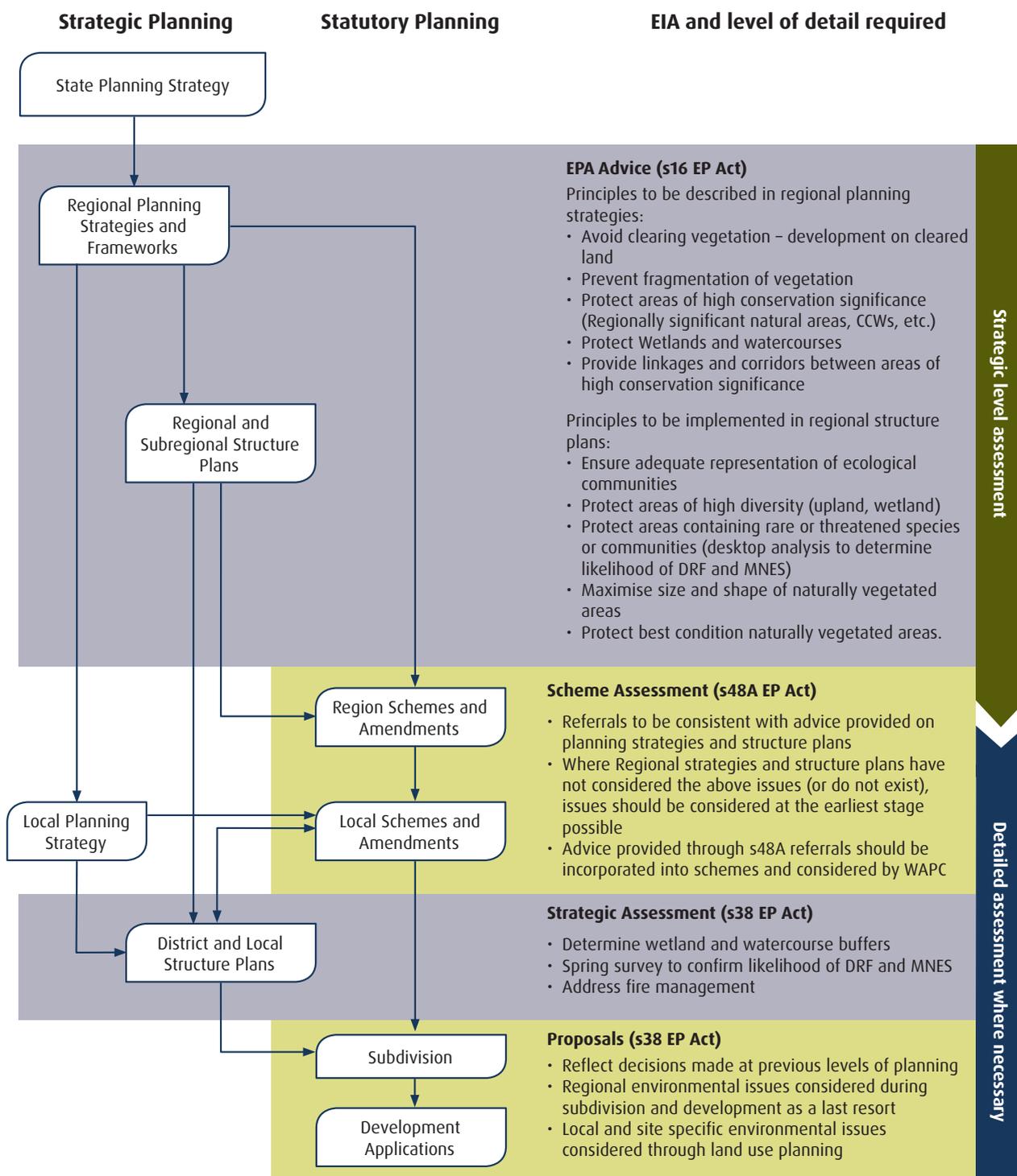
- set environmental aims and objectives early in the planning process so that consideration of environmental issues is a continuous part of the planning process;
- explain how long term environmental objectives can be achieved;
- consider cumulative environmental impacts of development over many years;
- consider environmental issues in a wider context than more detailed levels of planning, and
- consider a greater range of options to retain biodiversity.

The EPA sees particular value in linking planning decision-making in a locality to a regional strategy that deals comprehensively with the protection of biodiversity. This is particularly important in areas which have been substantially cleared or where there are increasing development pressures and in regions which are not covered by a regional planning scheme (EPA, 2008).

A range of statutory and non-statutory planning and land use instruments are available to identify, retain and protect natural areas (WAPC, 2011). These include:

- regional and local biodiversity strategies as part of a local planning strategy;
- reservation of land for conservation purposes;
- scheme provisions and use of special provisions;
- special control areas, and
- conservation zoning.

Environmental Assessment and the Planning Framework



CCW: Conservation Category Wetlands
 DRF: Declared Rare Flora
 MNES: Matters of National Environmental Significance

Design guidelines for planning and development

The following design guidelines will assist planners, developers, and local governments in minimising impacts to naturally vegetated areas. When applied at the strategic level during the design phase of a regional or district structure plan, these guidelines will aid in meeting the EPA's objectives for flora and vegetation, and terrestrial fauna. Most of the guidelines are also appropriate to consider at the more detailed stages of planning and development. Examples 1 and 2, below, demonstrate the application of the guidelines.

1. Locate development on cleared land

The best places to protect naturally vegetated areas are where they occur. Strategies such as revegetation are costly, take years to reach maturity, and do not represent the complex functions and values of natural areas. The most important areas for protection should be identified, in consultation with the relevant agencies, and development over intact natural areas should be avoided.

The EPA has a general presumption against the clearing of regionally significant natural areas. Where development over naturally vegetated areas is unavoidable, development should be focused within cleared parts of the site, followed by more degraded areas, as determined by site survey.

2. Consider the impact of fire protection requirements on biodiversity

Minimising development in naturally vegetated areas is highly compatible with minimising the risk of fire and its potential impacts on the community.

The *Planning for Bush Fire Protection Guidelines* (WAPC & FESA, 2010) outlines the requirements to protect people from bushfires and avoid inappropriate development in bushfire risk areas.

Where residential areas are situated near fire risk areas, fire hazard reduction can have significant impacts on naturally vegetated areas. Clearing of building protection zones and reduction of fuel loads within hazard separation zones can contribute to the long term degradation of naturally vegetated areas. Fire management and protection requirements, including fire breaks, access and hazard reduction areas should be accounted for in assessing the impacts on naturally vegetated areas at the design stages.

3. Protect large consolidated naturally vegetated areas

Large consolidated naturally vegetated areas have been shown to be the most resilient in protecting biodiversity in the long term and generally have lower management requirements (costs) than smaller and fragmented areas of vegetation (Government of WA, 1995).

Development should be designed to retain naturally vegetated areas in large consolidated blocks which are representative of the biodiversity values in the area, to avoid fragmentation or isolation.

Large consolidated blocks should:

- include the best condition naturally vegetated areas on site and ensure that they are representative of the area.
- have a low edge to area ratio, which is determined based on the size and shape of the consolidated block. Large naturally vegetated areas are preferred over long or irregular shaped retained naturally vegetated areas.
- use hard edges (such as roads) to buffer naturally vegetated areas rather than having housing lots immediately adjacent to retained naturally vegetated areas. The location of roads and public areas near naturally vegetated areas improves surveillance, deters vandalism and arson, and avoids individual properties advancing into retained naturally vegetated areas. Roads also provide a fire break, reducing the impact of hazard reduction activities on naturally vegetated areas.

Fragmentation of larger naturally vegetated areas into smaller pockets of vegetation results in the loss of habitat values and degradation of vegetation. Small areas of vegetation have low viability, higher management costs to maintain their condition and are more susceptible to weeds, pest invasion and other degrading processes.

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Example 1 (good): Naturally vegetated areas retained in a large consolidated block, roads used as a buffer which prevents development encroachment and for fire protection. Active open space clearly differentiated from retained naturally vegetated area.



Example 2 (poor): Naturally vegetated areas are small and fragmented with irregular shape. No consideration of fire protection requirements or appropriate adjacent land uses.

Development should consider the site specific environmental characteristics in the context of the guidelines and in consultation with the EPA.

4. Ecological linkages should be planned in the regional context and connect large naturally vegetated areas

Ecological linkages are a series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as habitat stepping stones which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape. While ecological linkages are desirable, they should not be established at the expense of large consolidated naturally vegetated areas.

5. Ensure clear and ongoing management responsibilities in retained naturally vegetated areas

Retained naturally vegetated areas should be placed under secure tenure and managed by a body which is prepared and willing to accept the long term management responsibilities and costs for the area. This is particularly important in areas which do not have a region scheme or funding for regional reserves. In areas covered by a region scheme, high value retained naturally vegetated areas are best retained through reservation and vesting for conservation purposes.

6. Infrastructure should not be located within consolidated retained naturally vegetated areas

Services and infrastructure, including roads and other transport corridors, should not be located within or through consolidated naturally vegetated areas. Infrastructure within naturally vegetated areas disrupts the connectivity of these areas and reduces the environmental values and long term viability of the area through fragmentation and edge effects.

References

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