



Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs

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Introduction

Purpose of the guideline

This guideline outlines the obligations that apply in Greater Flagstone and Yarrabilba Priority Development Areas (PDAs) when development results in the clearing of:

- » remnant vegetation containing endangered regional ecosystems and
- » areas defined in Schedule 1 of this guideline as koala habitat areas.

The purpose of this guideline is to ensure that, as a result of development within the PDAs:

- » there is no net loss of remnant vegetation containing endangered regional ecosystems within the region and
- » an appropriate contribution is made towards the achievement of a net gain in bushland koala habitat within the region.

Provisions of the Australian Government Environment Protection and Biodiversity Conservation Act 1999 applies to PDAs in relation to encouragement of threatened species and communities.



The nature of the obligation

The development scheme requirements

The Greater Flagstone and Yarrabilba Priority Development Area (PDA) development schemes require (amongst other things):

- » the protection of viable remnant vegetation containing endangered regional ecosystems and
- » development to
 - » avoid (to the greatest extent possible) the clearing of areas mapped as having High Value Bushland on the relevant State Planning Policy 2/10: Koala Conservation in South East Queensland (SPP) Koala Habitat Values maps
 - » cater for koala movement between conserved areas of bushland koala habitat
 - » incorporate koala sensitive urban design.

When the guideline obligation applies

The obligation under this guideline applies when a PDA development approval results in:

- » the clearing of confirmed non-viable remnant vegetation containing endangered regional ecosystems¹
- » the necessary clearing of koala habitat areas².

Obligation options

When development results in the clearing of confirmed non-viable remnant vegetation containing endangered regional ecosystems - compensation planting must be undertaken.

When development results in the necessary clearing of koala areas - koala habitat planting must be undertaken or a monetary contribution made.

A PDA development condition will set out the details of the applicable obligation.

More detail about the obligation options is set out later in this guideline.

Details included with a PDA development application

Where a PDA development application proposes the clearing of non-viable remnant vegetation containing endangered regional ecosystems or koala habitat areas details of the proposed compensation planting or monetary contribution must be submitted with the application.

The application must also include the following supporting documentation:

In relation to remnant vegetation containing endangered regional ecosystems:

- » the extent³ of remnant vegetation containing endangered regional ecosystems on the site
- » remnant vegetation containing endangered regional ecosystems immediately adjoining the site
- » the identification of viable and non-viable remnant vegetation containing endangered regional ecosystems
- » details of the analysis used to determine the viability/non-viability of the vegetation.

In relation to koala habitat areas:

- » the extent³ of koala habitat areas within the site
- » details of the methodology used to confirm the extent of koala habitat areas within the site
- » likely koala habitat area immediately adjoining the site
- » the proposed extent³ of clearing of koala habitat areas
- » justification for why the clearing is necessary.

Limitations on compensation planting for cleared non-viable endangered remnant vegetation

The proposed planting area must not be:

- » mapped as remnant vegetation, unless:
 - a. the area has a valid clearing approval that would result in the area being cleared or

1 Viable remnant vegetation containing endangered regional ecosystems and Non-viable remnant vegetation containing endangered regional ecosystems is as defined in Schedule 1 Definitions of this guideline.

2 The MEDQ will only approve the clearing of koala areas where it has been adequately demonstrated in the application that the clearing is necessary.

3 in hectares

- b. it is reasonably foreseeable that the remnant vegetation will fall below the criteria for remnant vegetation and appear as white on a regional ecosystem map through an identified and immediate threatening process
 - » a category C area on a Property Map of Assessable Vegetation or
 - » an area on which vegetation is protected by another instrument of state government unless a. or b. above apply.

Koala habitat planting

Koala habitat planting must reflect the following requirements as set out in the Queensland government's Offsets for Net Gain of Koala Habitat in South East Queensland Policy:

- » 5.1 - 5.5 in relation to where offsets may be delivered
- » 5.6 - 5.9 in relation to other considerations in determining suitable koala offset sites and
- » 5.17 in relation to species suitability.

Timing for delivering the obligation

Where a monetary contribution is specified in a condition of approval the contribution must be paid within 18 months of the date of the approval or prior to the commencement of use, whichever is the sooner.

Where planting is specified in a condition of approval the planting must be completed within four (4) years of the date of the sealing of the associated plan of subdivision or prior to the commencement of use, whichever is the sooner.

A minimum of 25 per cent of the planting works must be completed within each 12 month period following the date of approval.

Security by way of a bond must be in place prior to the MEDQ sealing any reasonably associated plan of subdivision.

Legally securing planting areas

Where planting is proposed the planting area must be legally secured. The area is considered legally secured if it is protected via a legally binding mechanism⁴.

Examples of legally binding mechanisms are provided in the Queensland Government Environmental Offset Policy (EPA) and include:

- » dedication as a protected area under the Nature Conservation Act 1992 (e.g. Nature Refuge, National park)
- » declaration of an area of high nature conservation value under the Vegetation Management Act 1999
- » use of a covenant under the Land Act 1994 or Land Title Act 1994.

Managing the planting area

Where planting is proposed, a Planting Management Plan must be prepared which includes the following details:

- » a map (preferably digital) that clearly identifies the proposed planting area with Global Positioning System (GPS) points, including any areas subject to specific management actions
- » the area management objectives and outcomes
- » activities that will be undertaken to achieve the management objectives and outcomes
- » restrictions imposed on the use of the planting area to achieve the management objectives and outcomes (protection/exclusion fencing, signage etc)
- » an analysis of the risks to achieving the management objectives and outcomes, actions to minimise the risks and remedial action that will be undertaken if any of the risks occur
- » a yearly schedule of management actions, to ensure achievement of the management objectives and outcomes, for the specified period
- » a monitoring and reporting program

⁴ As defined in the Queensland Government Environmental Offset Policy (EPA)

- » the estimated time until the area management objectives and outcomes will be achieved
- » identification of all registered interests including mortgages, leases, subleases, covenants, profit a prendre, easements and building management statements, that have been registered on title under the Land Act 1994 or the Land Title Act 1994
- » the estimated management costs associated with achieving the area management objectives, actions and outcomes
- » the entity/ies responsible for undertaking the management actions and the skills or expertise of the entity/ies responsible for undertaking the management actions

For further guidance on preparing a planting management plan, refer to the Department of Environment and Resource Management's Vegetation Management Plan Template Version 1 January 2009.

Determining the obligation

Remnant vegetation containing endangered regional ecosystems

The Greater Flagstone and Yarrabilba PDA development schemes require development to protect confirmed viable remnant vegetation containing endangered regional ecosystems.

Where the clearing of confirmed non-viable remnant vegetation containing endangered regional ecosystems is approved by the MEDQ, the following planting obligation options apply.

Options	Planting ratios
<p>Option 1.1</p> <p>The proposed planting must:</p> <ul style="list-style-type: none">be the same <u>pre-clearing regional ecosystem</u> as the area proposed for clearingbe within 30 kilometres of the area proposed for clearingbe non-remnant vegetationhave less than 10 per cent weed coverwith management, attain remnant status within 5 years andnot require revegetation.	1:2
<p>Option 1.2</p> <p>The proposed planting must:</p> <ul style="list-style-type: none">be the same <u>pre-clearing regional ecosystem</u> as the area proposed for clearingbe within 30 kilometres of the area proposed for clearingbe non-remnant vegetationhave less than 25 per cent weed coverwith management, attain remnant status within 5 yearsnot require revegetation across more than 10 per cent of the offset area andprovide connectivity or a buffer to other remnant vegetation.	1:2.5

Options	Planting ratios
<p>Option 1.3</p> <p>The proposed planting must:</p> <ul style="list-style-type: none"> be the same pre-clearing regional ecosystem as the area proposed for clearing be within 30 kilometres of the area proposed for clearing be non-remnant vegetation have less than 25 per cent weed cover with management, attain remnant status within 20 years not require revegetation across more than 60 per cent of the offset area and provide connectivity or a buffer to other remnant vegetation. 	1:4
<p>Option 1.4</p> <p>The proposed planting must:</p> <ul style="list-style-type: none"> be the same regional ecosystem as the area proposed for clearing be within 20 kilometres of the area proposed for clearing and be remnant vegetation of the same or better ecological quality that has a valid clearing approval and therefore would otherwise be cleared. 	1:1

Koala habitat areas

Within Greater Flagstone Priority Development Area (PDA)

To ensure development contributes to the achievement of a net increase in bushland koala habitat in the region, development within the Greater Flagstone PDA must:

1. For each dwelling approved in the PDA - contribute \$150 to koala habitat management in the region
2. Where the clearing of koala habitat areas is approved by the MEDQ and the payment of a monetary contribution is proposed - pay
 - a. for land mapped as having high, medium or low value bushland habitat proposed to be cleared - \$15,000 for each hectare cleared
 - b. for land mapped as having high to medium value suitable for rehabilitation habitat types:
 - » \$5,000 for each hectare cleared or
 - » \$920 per non-juvenile koala habitat tree cleared
3. Where the clearing of a koala habitat area is approved by the MEDQ and suitable land exists upon which the undertaking of planting is proposed - plant:
 - a. for each hectare of land mapped as having high, medium or low value bushland habitat proposed to be cleared - 1.2 hectares of koala habitat on land legally secured in accordance with the provisions of this policy
 - b. for each hectare of land mapped as having high or medium value suitable for rehabilitation habitat types - 0.5 hectares of koala habitat on land legally secured in accordance with the provisions of this policy
 - c. for each non-juvenile koala habitat tree cleared - 5 new koala habitat trees within an area legally secured in accordance with the provisions of this policy.



Within Yarrabilba Priority Development Area (PDA)

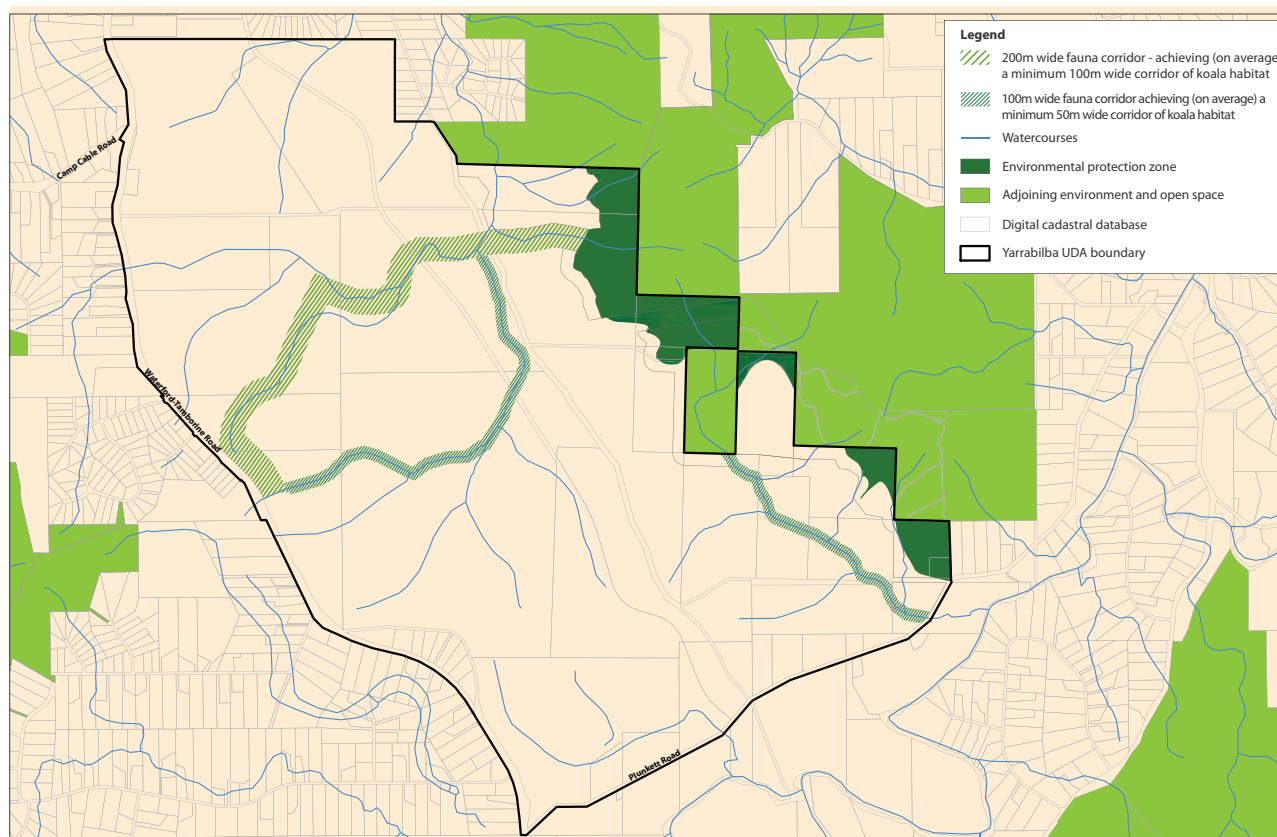
To ensure development contributes to the achievement of a net increase in bushland koala habitat in the region, development within the Yarrabilba PDA must deliver the following koala movement corridors across the PDA (generally in accordance with Figure 1):

- » a 200 metre wide corridor helping to connect Plunkett Conservation Park, across Waterford Tamborine Road to the Birnan Range, achieving (on average) a minimum 100 metre wide corridor of koala habitat.
- » a 100 metre wide corridor linking Plunkett Conservation Park (via a creek tributary flowing south to the Albert River) to the south east corner of the PDA that contains mapped High Value Bushland Koala Habitat, achieving (on average) a minimum 50 metre wide koala habitat corridor.
- » a 100 metre wide corridor linking the western end of the 200 metre wide vegetated corridor at Waterford Tamborine Road, achieving (on average) a minimum 50 metre wide koala habitat corridor.

The habitat planting is to be detailed in a Rehabilitation Plan, to be prepared early. Planting is to be comprised primarily of koala habitat vegetation and associated endemic species.

Delivery of the corridor and planting will be linked to development stages.

Figure 1: Koala movement corridors



Schedule 1

Definitions

Clearing

As defined in the Vegetation Management Act 1999.

Remnant vegetation containing endangered regional ecosystems

Areas of remnant vegetation containing endangered regional ecosystems as shown on the regional ecosystem map prepared under the Vegetation Management Act 1999.

Confirmed areas of remnant vegetation containing endangered regional ecosystems

Areas of remnant vegetation containing endangered regional ecosystems as shown on the regional ecosystem map prepared under the Vegetation Management Act 1999 and confirmed by on-site investigations using a methodology accepted by the MEDQ.

Koala habitat areas

An area mapped on State Planning Policy 2/10: Koala Conservation in South East Queensland, SEQ Koala Protection Area Koala Habitat Values maps as:

- » bushland habitat
- » having high and medium value suitable for rehabilitation habitat types.

Legally binding mechanism

As defined in the Queensland Government Environmental Offset Policy (EPA).

Non viable areas of remnant vegetation containing endangered regional ecosystems

Areas of remnant vegetation containing endangered regional ecosystems as shown on the regional ecosystem map prepared under the Vegetation Management Act 1999 that:

- » are smaller than 5ha
- » are not connected to:
 - » other remnant or high value regrowth communities
 - » a watercourse or waterbody
 - » a mapped corridor within or external to the PDA (including State and local government corridor mapping)
- » are not confirmed endangered communities located within a:
 - » State or Regional Corridor
 - » Local Government Strategic Biodiversity Corridor
 - » Adjacent to a Protected Area Estate
- » has become, or is likely to become, isolated or fragmented as a result of the surrounding land use pattern and
- » has greater than 50 per cent weed species through the understorey and ground layer.

Significant vegetation

As defined in the Greater Flagstone or Yarrabilba Priority Development Area development schemes.

Schedule 2

References

1. Queensland Government (2010) State Planning Policy 2/10: Koala Conservation in South East Queensland.
2. Queensland Government Environmental Protection Agency, Environmental Offsets Policy.
3. Queensland Government Department of Environment and Resource Management (2010) Offsets for Net Gain of Koala Habitat in Southeast Queensland Policy.
4. Queensland Government Department of Natural Resources and Water (2007) Policy for Vegetation Management Offsets. VEG/2006/2888 - Version 2. August 2007.
5. Queensland Government Department of Environment and Resource Management (2009) Policy for Vegetation Management Offsets. VEG/2006/2888 - Version 2.4. October 2009.

Schedule 3

Ecological equivalence factors

Ecological equivalence factors	Considerations	Resources
Location	<p>Planting areas that are further away from the area proposed to be cleared share less ecological similarity when compared to areas that are close by and within the same subregion.</p> <p>The distance between the planting area and the area proposed for clearing also has an impact on local biodiversity. For example, the further away the planting, the less likely it will mitigate the impact of the clearing on local biodiversity values.</p>	<ul style="list-style-type: none"> » The Conservation Status of Queensland's Bioregional Ecosystems, Sattler and Williams 1999, EPA.
Strategic position	<p>Planting that is located in a State or Regional Wildlife Corridor, part of a local government strategic biodiversity corridor or adjacent to the protected area estate or other protected areas would be a highly desirable outcome for conservation of biodiversity.</p> <p>Strategic corridors have also been identified at different geographical scales by State and local governments. The EPA's Biodiversity Planning Assessments (BPAs) identify Bioregional Wildlife Corridors while individual local governments may have identified ecological corridors significant to their local area which may be identified in planning schemes or conservation strategies.</p>	<ul style="list-style-type: none"> » The EPA's biodiversity website: http://www.epa.qld.gov.au/nature_conservation/biodiversity » Local government planning schemes and conservation strategies.
Area	<p>Size is strongly correlated with the long-term viability of areas of native vegetation. Larger areas are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller areas. Smaller areas may make wildlife more vulnerable to disease, bushfire, pests, changes in climate, and inbreeding.</p> <p>Planting that builds on the viability of an area would provide a more desirable biodiversity outcome.</p>	<ul style="list-style-type: none"> » Native vegetation management in QLD - background science and values, 2000 NRW, Chapter 4.

Ecological equivalence factors	Considerations	Resources
Comparable vegetation community attributes	<p>Planting that is a regional ecosystem with similar species composition, structure and forest type to the area proposed to be cleared will minimise the loss of specific vegetation community attributes and hence better ensure ecological equivalence.</p> <p>For example, if an area of remnant rainforest is proposed to be cleared, planting that is either non-remnant rainforest or wet sclerophyll open forest regional ecosystem with similar canopy and understorey species, would more likely achieve the obligation as it has similar ecological values and attributes to those being lost. In contrast, woodland would be inappropriate as the ecological values of the rainforest are unrelated to the values provided by the woodland.</p>	<ul style="list-style-type: none"> » Regional Ecosystem Description Database - EPA website: http://www.epa.qld.gov.au/nature_conservation/biodiversity/regional_ecosystems/ » Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland V.J. Neldner et. al. EPA.
Condition of vegetation (site based condition attributes)	<p>Condition can be described in terms of genetic or species diversity, vegetation community structure, presence and abundance of native fauna, presence and abundance of feral animals, pests and weeds, health of soil and water, long-term viability of the vegetation and ability of the ecosystem to withstand threatening processes.</p> <p>Indicators based on key vegetative structural elements are a reliable and cost effective way to assess biodiversity and hence condition (Eyre et al. 2006). The BioCondition field assessment manual produced by the EPA provides for a range of assessable site-based condition attributes that, in combination, provide a thorough assessment of condition. These are:</p> <ul style="list-style-type: none"> » recruitment of woody perennial species » native plant species richness » per cent of tree canopy cover » tree canopy height » per cent of shrub layer cover » per cent of native perennial grass cover » per cent of native perennial forb and non-grass cover » per cent of native annual grass, forb and non-grass cover » large trees » fallen woody material » weed cover and » litter cover. 	<ul style="list-style-type: none"> » BioCondition: A Terrestrial Vegetation Condition Assessment Tool for Biodiversity in Queensland Field Assessment Manual, T.J. Eyre et. al. EPA. » Methodology for the Establishment and Survey of Reference Sites for BioCondition, T.J. Eyre et. al. EPA.

Ecological equivalence factors	Considerations	Resources
Regaining remnant status	<p>The type, quality and successional stage of regrowth vegetation (i.e. vegetation that is non-remnant) growing in the proposed planting area, and its alignment to the floristic description of the corresponding regional ecosystem will affect its ability to regain remnant status.</p> <p>Planting mature good quality regrowth vegetation is preferable to degraded regrowth planting or planting involving revegetation. The ecological values of three different types of regrowth vegetation, in the context of regaining remnant status are analysed below.</p> <p>Mature good-quality regrowth (most desirable):</p> <ul style="list-style-type: none"> » low and short term management costs, with input focussing on enhancing the regrowth and facilitating its transition to maturity and remnant status » highest ecological value for regrowth as it is an intact vegetation community » ecological values easy to describe and analyse, allowing for accurate determination of RE (i.e. contains dominant species, in secondary or tertiary succession phases) and » low risk of failure to regain remnant status. 	

Ecological Equivalence Factors	Considerations	Resources
	<p>Degraded regrowth:</p> <ul style="list-style-type: none"> » moderate to high management costs, with input focussing on removing the threats and fixing the degradation through appropriate management to promote the re-establishment of the RE (dependant upon the type and severity of degradation, for example significant weed infestation) » difficulty in predicting the success of the management in terms of regaining remnant status and » higher risk of failure to achieve remnant status. <p>Significant revegetation:</p> <ul style="list-style-type: none"> » high and long term management costs, with input focussed on re-introducing the correct floristic species of the RE and relatively intensive management (at least until regrowth is self- supporting) » lowest ecological value » more analysis required to ensure correct RE and landzone and to ensure required ecological values are achieved (i.e. providing specific habitat) » complex requirement to design revegetation to ensure the correct floristic species aligned to the RE description (including local provenance), planting schedules and vegetation structure and » higher risk of failure to achieve remnant status. 	

Ecological Equivalence Factors	Considerations	Resources
	<p>From an on-ground perspective, remnant vegetation from the VMA's vegetation, part of which forms the predominant canopy of the vegetation:</p> <ol style="list-style-type: none"> covering more than 50 per cent of the undisturbed predominant canopy averaging more than 70 per cent of the vegetation's undisturbed height and composed of species characteristic of the vegetation's undisturbed predominant canopy. <p>The Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland, produced by the EPA provides detailed guidance in the regional ecosystem and remnant vegetation mapping process.</p>	
Landscape context attributes - incorporating size of patch, connectivity and context considerations	<p>Size of patch</p> <p>Large patches in the landscape are less susceptible to edge effects and are more likely to sustain viable and more varied populations of native flora and fauna than smaller patches.</p> <p>Connectivity</p> <p>Wildlife corridors are areas of native vegetation (both remnant and non-remnant) that link other native vegetation within an otherwise cleared landscape. Corridors are an important tool to mitigate the impact of habitat loss and fragmentation.</p> <p>In a cleared or highly modified environment, if the planting is linked to other areas of native vegetation, there is a greater enhancement of biodiversity and consequently, greater long term conservation outcomes.</p>	<ul style="list-style-type: none"> » BioCondition: A Terrestrial Vegetation Condition Assessment Tool for Biodiversity in Queensland Field Assessment Manual, T.J. Eyre et. al. EPA. » Methodology for the Establishment and Survey of Reference Sites for BioCondition, T.J. Eyre et. al. EPA. » Native vegetation management in QLD - background science and values, 2000 NRW, Chapter 4. » The EPA's biodiversity website: http://www.epa.qld.gov.au/nature_conservation/biodiversity » Local government planning schemes and conservation strategies.

Ecological Equivalence Factors	Considerations	Resources
	<p>Corridors play an important role in both providing habitat and assisting in wildlife movement and genetic flow.</p> <p>Corridors have been identified at different geographical scales by State and local governments. The EPA's BPA's identify Bioregional Wildlife Corridors while individual local governments may identify ecological corridors significant to their local area. These may be identified in planning schemes or conservation strategies.</p>	



For more information contact us on:
Economic Development Queensland
GPO Box 2202 Brisbane Qld 4001
Telephone: (07) 3452 7880
Email: edq@dilgp.qld.gov.au
Web: www.edq.qld.gov.au