



Planning Scheme Policy 2

Ecological Assessment Guidelines

SC6.3 Planning scheme policy 2 - Ecological assessment guidelines

SC6.3.1 Introduction

The Western Downs includes tracts and patches of remnant vegetation and associated habitat with high conservation value. While some of these values are already protected in the conservation estate, many are found outside areas that are explicitly protected. This includes tracts of remnant and regrowth vegetation and waterways and wetlands that not only provide habitat for native plants and animals but also corridors between conservation reserves.

The **Biodiversity Areas Overlay Map OM-002**, **Waterway Corridors Overlay Map OM- 013** and **Wetlands Overlay Map OM-014** delineate the known location of these and other ecological values present in the Western Downs. However, as this mapping is derived from existing knowledge it is likely that some ecological features have not been adequately represented. As such, there is a need to undertake on the ground assessments so that development can respond to prevailing ecological values.

SC6.3.2 Application

This planning scheme policy is for the specific purpose of assessing ecological values within the Western Downs Local government area as triggered by the **Biodiversity Areas Overlay Map OM-002**, **Waterway Corridors Overlay Map OM-013** and **Wetlands Overlay Map OM-014**. The policy does not aim to replace assessments triggered by or undertaken in response to other government legislation or policy. For instance, the guideline should not be used to assess Matters of National Significance for the purposes of the *Environmental Protection and Biodiversity Conservation Act 1999* and will not discount the need for the assessment against the provisions of the *Vegetation Management Act 1999*. However, assessments undertaken for any other purpose will assist in the preparation of an ecological assessment prepared in accordance with these guidelines.

SC6.3.3 Ecological Assessment

SC6.3.3.1 Type of Assessment

The type of assessment required at a site triggered by the **Biodiversity Areas Overlay Map OM-002**, **Waterway Corridors Overlay Map OM-013** and **Wetlands Overlay Map OM- 014** and where required by respective overlay codes will be largely dictated by the values mapped for the site and prevailing diversity and integrity of vegetation associations.

Desktop assessments are an integral component of all ecological assessments. The level of effort applied to desktop assessments should remain relatively constant irrespective of the level of field assessment required.

Whilst it is acknowledged that a spectrum of field survey effort can be considered, this ecological assessment guideline categories 2 levels:

- 1) **Basic** - Assessment is undertaken over the period of a day or less. Trapping is not undertaken, although diurnal searches for fauna are desirable. Vegetation structure is likely to be readily assessed using Quaternary sites, although transect information may be useful in some situations. All prevailing environments are assessed.
- 2) **Detailed** - Assessment is undertaken over a five day / four night period. Trapping is undertaken. To adequately describe vegetation structure a mix of Secondary and Quaternary sites are required. All prevailing environments are assessed. In some instances seasonal survey information may be required (e.g. Summer and Winter surveys).

Listed below are the ecological features delineated in **Biodiversity Areas Overlay Map OM-002**, **Waterway Corridors Overlay Map OM-013** and **Wetlands Overlay Map OM- 014** and the of field level assessment required where development is likely to impact the feature:

Detailed assessments are required where the site is mapped as including one or more of the following

features:

- High Ecological Significance biodiversity areas;
- Waterways; and
- Wetlands.

Basic assessments are required where the site is mapped as including one or more of the following features:

- General Ecological Significance biodiversity areas;
- Local Ecological Significance;
- Biodiversity corridors.

For sites where there are features triggering either basic or detailed assessments are present, the level of assessment should be determined by the dominant feature for the site or in consultation with Council.

Assessments should not be restricted to portions of the site mapped as a constraint to the feature, but to the entire site so that spatial extent of ecological features can be accurately determined at the property level.

Whilst this represents a guide for the likely level of assessment required, advice should be sought from Council regarding the proposed approach. For example, a large site supporting a limited area of significant vegetation in a remote corner may not justify a full detailed assessment, whereas a site completely covered in remnant vegetation is likely to trigger assessment. Over time, the knowledge of the local environment will improve and as such there may be instances where Council may recommend a greater or reduced effort of survey.

SC6.3.3.2 Recommended Contents

Irrespective of the level of assessment required it will be necessary to establish and describe the following:

Table SC6.3.3 Ecological assessment requirements

Author's Qualifications	The skills and qualifications of the author of the ecological assessment.
Trigger for Ecological Assessment	A description of the values that are mapped for the site in the Vegetation Overlay and Waterway and Wetlands Overlay maps.
Background Information	Desktop assessment of known and likely values (see section 3.3 for guidance).
Methods of Field Assessment	See section 3.4 for guidance.
Description of Habitat Values	Describe the vegetation communities/regional ecosystems present on site. Identify the known flora and fauna species occurring on or utilising the site as an extension of its habitat. Provide lists of these species. Extent of significant habitat areas and features.
Condition	The condition of the site and the presence of threatening processes such as elements such as weeds.
Species / Communities of Conservation Significance	The known or likely presence of flora and fauna species or ecological communities that are of conservation significance.
Water and Drainage	The presence or otherwise of water features including rivers and streams, freshwater wetlands, estuarine or marine environments.
Ecological Corridors	Location, alignment and width of ecological corridors. This includes regional, local and site based corridors. The degree to which a site contributes to corridor function must be discussed (note, some sites may be entirely located within a corridor).
Response to Ecological	How the development proposal considers the identified

Values	ecological values.
Mitigation	Mitigation measures associated with the development. Any offset measures proposed.
Impacts	The likely residual impacts of the development proposal.

It is recommended that the above list forms the basis for a table of contents for the ecological assessment. The abovementioned list is not considered to be exhaustive and Council may request further detail to be included, however, this will be subject to each individual development application.

The report should include appropriately scaled maps and photographs of the site.

SC6.3.3.3 Desktop Assessment

The following is a list of some of the resources that might be reviewed to inform the field work component and the final written ecological assessment:

- Aerial photography, both current and historical;
- Existing reports that are specific to the site or region;
- Planning scheme overlays;
- Databases (e.g the Queensland Herbarium's HerbreCs and Corveg, Wildnet, EPBC Protected Matters, Birds Australia and Queensland Museum); and
- Existing mapping resources (e.g. regional ecosystem remnant and regrowth maps, Biodiversity Planning Assessments, geological, waterways and topographic).

If an area is mapped as State, Regional or Local significance, an assessment of the criteria that lead to its designation should be made.

SC6.3.3.4 Field Assessment

Flora

All vegetation communities should be assessed in terms of the structure and floristics. The Queensland Herbarium's "Methodology for Survey and Mapping of Vegetation Communities and Regional Ecosystems in Queensland" (Nelder *et. al.*, 2012) provides a framework against which vegetation communities can be delineated and described. A useful method for capturing vegetation structure and dominant floristics elements is the use of Secondary and Quaternary sites. At a property scale delineation of vegetation communities should be at a scale of 1:10,000 or better.

If wetlands are present they should be delineated according to "Part B of the draft Queensland Wetland Definition and Delineation Guideline" (DERM, 2011).

A flora list should be established for the site that adequately samples all vegetation communities present. Threatened species identified in the desktop assessment should be targeted. At a minimum the species list must include the common name, scientific name and status (conservation status or pest status).

Fauna

For basic assessments a description of habitat values should be included. The known or likely occurrence of significant species should be described. Diurnal searches including the following would ideally be undertaken:

- Diurnal bird searches;
- Diurnal ground searches;
- Tracks, scats and other trace analysis; and
- Opportunistic observations.

For detailed assessments the following techniques should be employed:

- Diurnal/nocturnal bird searches;
- Ground searches;
- Elliott trapping;
- Cage trapping where appropriate;
- Pitfall &/or funnel trapping;
- Hair funnel trapping;

- Spotlighting;
- Anabat bat detection;
- Call playback; and
- Habitat assessment.

SC6.3.4 Qualification Requirements to Prepare an Ecological Assessment

Tertiary qualifications in environmental science with skills and/or training in field ecology are required. Preferably the consultant will be a Certified Environmental Practitioner. Individuals undertaking field work should have appropriate licences, approvals and permits required by DERM, DEEDI and the Animal Ethics Committee.

SC6.3.5 How Does the Ecological Assessment Inform Development Design?

The site design should respond to the findings of the ecological assessment. Important ecological features should be retained.

Important ecological features should also be buffered. Buffers to freshwater wetlands, waterways and estuarine environments should follow current best practice.

Where corridors are identified the design should include unencumbered movement paths. For wooded sites these should aim to be at least 350m wide. For sites with no to little vegetation provisions should be made to retain and restore the corridor.

Ecological features should be delineated in an opportunities and constraints map. The final ecological assessment should demonstrate how the proposed plan of development responds to site values.

SC6.3.6 Describe the Impacts

The impacts of the development should be described. This should include not only direct impacts such as the clearing of vegetation, but also the indirect impacts affected areas both on and off site (e.g. what the likely edge effects on vegetation or what is the likely impact of storm water runoff to receive sites). Both permanent (e.g. removal of a hollow bearing tree) and temporary (e.g. establishment of a temporary creek crossing) should be discussed.

Not all impacts are negative. A proposal that results in the overall enhancement of the natural environment through ecological restoration or removal of weeds will have a positive impact. A net benefit might also be achieved if an environmental offset (such as those delivered in accordance with current State government policy) results in a net increase in vegetation cover and/or the habitat of a threatened species.

References

Department of Environment and Resource Management., 2011, *Queensland Wetland Definition and Delineation Guideline*. Queensland Government, Brisbane.

Neldner, V.J., Thompson, E.J., Bean, A.R. and Dillewaard, H.A. with contributions from Wilson, B.A., Sparshott, K.M., Grimshaw, P., Dowling, R., Stephens, K.M., Price, R. and Stanely, T.D., 2005. *Methodology for Survey and Mapping of Vegetation Communities and Regional Ecosystems in Queensland*. (Ed.s Neldner, V.J., E.J. Thompson, A.R. Bean and H.A. Dillewaard). Queensland Herbarium, Queensland Environmental Protection Agency, Australia.