

Ecological (Flora and Fauna) Assessment Guidelines

Guidelines for the
preparation of an
ecological assessment
to address local, state
and commonwealth
legislative requirements

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Introduction

Set within a world heritage area, the Blue Mountains contains rich biodiversity values comprising many environmentally sensitive features including significant geological features, steep slopes, watercourses, wetlands, riparian land, swamps, significant vegetation communities and biota with local, state or national significance. Development can cause adverse ecological impacts due to clearing, habitat loss, fragmentation, hydrological changes, pollution and edge effects. These impacts are to be avoided, minimised and mitigated with an ecologically sustainable and site responsive development design. Potential impacts of development are required to be assessed as part of Council's assessment of a development application.

Purpose of this guide

The purpose of these guidelines is to ensure biodiversity impacts are adequately considered according to the latest flora and fauna survey and assessment methods and standards, and that development complies with applicable local, state and commonwealth legislation. These guidelines provide a list of the essential components that Council requires to be included within an ecological assessment submitted with a development application. Each component is described below in a checklist format to be addressed within the ecological assessment report.

When is it required?

An ecological assessment will be required if the development proposal has the potential to impact native vegetation, rare or threatened biota or their habitat.

Who can prepare it?

An ecological assessment is to be undertaken by persons with appropriate qualifications and experience (preferably in the Blue Mountains area) in the survey and assessment of flora and fauna.



Blue Gum Riverflat Forest



Eulamprus leuraensis (Blue Mountains Water Skink)



Pherosphaera fitzgeraldii (Dwarf Mountain Pine)

Check List

The content and methods of a flora and fauna survey and assessment are to address the following:

FOLLOW THE GUIDELINES

- A. **Follow current local, state and commonwealth government guidelines** for flora and fauna survey and ecological assessment (see useful references below).

AUTHOR QUALIFICATIONS and LICENSING

- B. **Outline the author qualifications, experience, accreditation and relevant specialist qualifications and licensing** of all field workers.

Licenses are required under Part 2 of the Biodiversity Conservation Act 2016 and Section 25 of the Animal Research Act 1995, administered by NSW Office of Environment and Heritage and Department of Primary Industries.

SITE AND DEVELOPMENT PROPOSAL

- C. **Clearly describe and map the site and the nature and extent of all aspects of the development proposal** to be considered in the assessment.
- D. **Consider related reports** (e.g. Site Plan, Statement of Environmental Effects, Bushfire, Wastewater Management, Stormwater Management, Heritage, Archaeological)
- E. **Identify all likely impacts (direct, indirect and cumulative over time)** on-site and off-site, and during both construction and operational phases, that may result from the development proposal and to be considered by the assessment. Be specific and quantitative.

This may include clearing for building construction or asset protection zones, future 10/50 clearing entitlement areas, stormwater pollution, increased runoff volumes, altered flow patterns, sedimentation and erosion and reduced ecosystem health due to edge effects (altered microclimate, weed invasion, predation).

ASSESSMENT CRITERIA

- F. **Outline all applicable provisions of local, state and commonwealth legislation** relevant to biodiversity conservation required to be considered in the assessment.

This is to include the relevant Blue Mountains Local Environment Plan, Part 6 Biodiversity Offsets Scheme and Part 7 Biodiversity assessment and approve under Planning Act of the NSW Biodiversity Conservation Act 2016, NSW Fisheries Management Act 1994 and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

- G. **Outline all relevant local, state and commonwealth guidelines and resources** to be used. For example, state and commonwealth flora and fauna survey and assessment guidelines (see useful resources); protection and management of environmentally sensitive land and provision of buffers (Part C1 Council's Blue Mountains Development Control Plan, BM DCP 2015); protection of riparian corridors (Part C1.6 BM DCP 2015 and NSW Office of Water's Guidelines for riparian corridors on waterfront land); fuel reduction requirements for provision of asset protection zones (Part C4 BM DCP 2015 and the latest NSW Rural Fire Service's documents Planning for Bushfire Protection and Standards for Asset Protection Zones).

IDENTIFY THE STUDY AREA

- H. **Identify the study area** (often larger than the subject site), being the area on or adjacent to the site, that are likely to be directly or indirectly affected by the development proposal.
- I. **Map the study area** clearly showing site locality, site boundaries, the extent of development, existing native vegetation community boundaries, LEP mapped constraints, and all other mapped or observed environmental features.
- Important features to show include LEP defined “environmentally sensitive or development excluded land”, “protected areas” and land zoned E2 environmental conservation, watercourses, riparian and swamp systems, rock outcrops and caves, steep slopes, known threatened biota, key habitat features, rare species of flora, the boundary of significant native vegetation communities and the buffer areas required to protect these features.
- J. **Describe the physical condition of the study area** including details on hydrology and how this relates the existing native vegetation communities and the condition of the vegetation and habitat(s) likely to be affected by the proposal.

SURVEY DESIGN / METHODOLOGY

- K. **Outline data sources** used to obtain background information and identify limitations and assumptions of the data and the study.
- L. **Include a habitat assessment** that identifies observed types and condition of habitat features within the study area that may support particular threatened species including vegetation types, foraging, breeding or roosting resources, and consider of corridors, migratory routes and drought refuges.
- M. **Develop a list and map of threatened species, populations and ecological communities** “known to occur” or “likely to occur” (based on the habitat assessment, or recorded within a threatened biota database search of 10km radius around the study area) which may be affected by the proposed development and should become the subjects of targeted investigations.
- N. **Detail the flora and fauna survey design, methods, location, timing and effort** and include:
- i. outline the stratification of the study area (based on landform, geology, vegetation structure and floristics)
 - ii. describe the flora and fauna survey design and methods with reference to minimum standards within relevant guidelines
 - iii. identify threatened species for targeted surveys
 - iv. provide photographs and a map showing survey locations (e.g. transects, quadrats, trap sites, sightings)
 - v. provide records of the date, time and weather at time of surveying and the effort (time spent) undertaking each survey type
 - vi. minimise the probability of recording false absences by tailoring the survey methods to identified target species
 - vii. any deviation in effort or field methods from the current state government survey and assessment guidelines are to be identified and supported by a valid scientific justification that refers to scientific literature.

SURVEY RESULTS

- O. **Present a list of all flora and fauna species detected** in the study area including their frequency, whether rare, threatened, non-threatened or invasive, scientific & common name and conservation status.
- P. **Show on a map** the location of any rare or threatened species or populations recorded during the survey.
- Q. **Summarise the totality of all survey effort and results** in one document where multiple investigations have been undertaken for the same site.
- R. **Describe and map the extent of all native vegetation community types** within the study area.

Descriptions are to be provided relative to Council's native vegetation mapping (1999-2002), LEP scheduled (significant) vegetation communities and threatened communities as determined under the Biodiversity Conservation Act, 2016 and EPBC Act, 1999. For each identified community: describe the structure, spatial distribution and landscape position, total species list, dominant canopy species, main associated species, characteristic mid-storey species, characteristic groundcover species and any other diagnostic features. Also describe the condition and integrity, the nature of any disturbance and consider the likely original vegetation community. Where asset protection zones are required describe the existing % tree canopy cover to inform the amount of clearing required to achieve the required inner and outer protection zone (asset protection zone) fuel loadings.

- S. **Limitations and assumptions** – recognise the limitations and shortcomings of the data collection (such timeframes or seasonal conditions) and acknowledge any assumptions used when interpreting the data.
- T. **Utilise the precautionary principle** - assume a threatened species is present if survey data cannot be relied upon due to climate or methods and their habitat requirements are met.

ECOLOGICAL ASSESSMENT

- U. **Assessing impacts** - Assessment against local, state and commonwealth legislation as to whether the proposal will, or is likely to, have an impact on:
 - i. **Local** - rare* species of flora and locally significant vegetation communities (LEP 2015 Schedule 6 and LEP 2005 Schedule 5) protected areas, environmentally sensitive land or development excluded land;
 - ii. **State** - state listed threatened species, populations and ecological communities and relevant State Environmental Planning Policies (SEPPs); or
 - iii. **Commonwealth** - matters of national environmental significance.

* as listed in the publication entitled "Rare or Threatened Australian Plants" (ROTAP), Briggs and Leigh, 1995 Revised Edition or any subsequent edition.

Refer to and address Local, State and Commonwealth provisions outlined in the Ecological Assessment Notes on pages 6 to 9 of this guide.

CONCLUSIONS AND RECOMMENDATIONS

- V. **Provide a conclusion** summarising the results of the assessment and the legislative compliance with local, state and commonwealth assessment criteria. Consider the need for development design amendments, evidence that the Biodiversity Offsets Scheme is or is not triggered, and confirm the need for any Biodiversity Development Assessment Report.
- W. **Provide recommendations** for avoiding, minimising and mitigating impacts to biodiversity, and effective measures to ensure expected impacts are managed appropriately or offset. Provide advice on the establishment, protection and management of conservation areas, ecological buffer areas, environmentally sensitive fuel reduction specifications, compensatory planting, and rehabilitation offset areas, habitat protection and enhancement, site management and maintenance, fencing, and restrictions on the title or positive covenants.
- X. **References** – include references for all documents referred to in the assessment.

LOCAL

Ecological Assessment Notes

Local Environment Plans

Blue Mountains Local Environment Plans contain legal provisions to protect locally significant native vegetation communities, rare species of flora and other sensitive environmental features including vegetation constraint areas, ecological buffer areas, riparian lands and watercourses, steep slopes and significant geological features that are often identified as protected areas, environmentally sensitive land (ESL) or development excluded land (DEL).

Determine which Local Environment Plan (LEP) and land use zoning applies to the site by visiting Council's website at www.bmcc.nsw.gov.au and viewing the interactive maps. Use the maps to identify all protected areas, other mapped constraints and environmental features known at the site. Validate the on-ground conditions and confirm if any unmapped environmental features require consideration. Address the relevant LEP environmental impact clauses and provide sufficient information to demonstrate that the proposed development complies with the applicable environmental provisions of the LEP.

- Local Environment Plan 2015 (LEP 2015) Part 6
- Local Environment Plan 2005 (LEP 2005) Part 3 Division 2

Development Control Plans

Determine which Development Control Plan (DCP) applies to the site by visiting Council's website and addressing the applicable DCP objectives, controls and submission requirements.

- DCP 2015 – applies to land zoned under LEP 2015. Address the relevant biodiversity controls in Part C1 and Part C2.3 Weeds of the Blue Mountains, Part C4.4 Asset protection zone provisions and Part I Submission requirements.
- Better Living DCP – applies to land zoned under LEP 2005. Address Part C General Principles and Performance Criteria for protecting the natural environment (biodiversity, weeds, stormwater, site management)



LOCAL (continued)

Ecological Assessment Notes

Assessment Against Local Provisions

Your submitted assessment of the environmental impacts of the development against the relevant LEP and DCP provisions is to provide sufficient information to address the following:

- A. the development complies with the relevant LEP and DCP environmental provisions
- B. the development complies with the applicable protected area and zone objectives
- C. the location of all ESL (LEP 2015) or DEL (LEP 2005) is to be shown on a scaled Site Analysis Plan relative to the proposed development
- D. the location of significant (scheduled) vegetation communities (LEP 2015 Schedule 6 and LEP 2005 Schedule 5) documenting any on-ground variation to Council's vegetation mapping
- E. provision of adequately sized ecological buffer areas to protect any significant (scheduled) vegetation communities providing scientific justification to support any reduction in LEP nominated buffer widths
- F. mapping and description of the sites native vegetation relative to Council's native vegetation community types (scheduled and non-scheduled) (BMCC 1999-2002 Native vegetation mapping in the Blue Mountains)
- G. the location of watercourses, wetlands or swamps and the provision of riparian zones and vegetated buffer areas to protect them
- H. the location of existing and potential native vegetation linkages and fauna corridors,
- I. escarpment areas, significant geological features or rare flora, and provision of the buffers required to protect them
- J. adjoining National Park and World Heritage Areas and provision of the buffers required to protect them
- K. describe and quantify any likely adverse impact on ESL (LEP 2015) or DEL (LEP 2005)
- L. application of the avoid, minimise and mitigate strategy
- M. provision of a comprehensive list of environmental protection and impact mitigation measures.



Blue Mountains
Swamp



Persoonia acerosa flowers and fruit



Petaurus australis
(Yellow-bellied Glider)



STATE

Ecological Assessment Notes

The purpose of the NSW Biodiversity Conservation Act 2016 is to conserve biodiversity and to establish a framework to avoid, minimise and offset the impacts of proposed development on biodiversity and to provide a scientific method to assess development impacts.

Council is required to consider the environmental impacts of development applications, projects, activities and rezoning proposals on biodiversity under Section 4.15 of the NSW Environmental Planning and Assessment (EP&A) Act, 1979 and relevant provisions in Part 6 Biodiversity Offsets Scheme and Part 7 Biodiversity assessment and approvals under Planning Act of the Biodiversity Conservation Act 2016.

In accordance with Section 7.7 of the NSW Biodiversity Conservation Act 2016, a development to which the Biodiversity Offsets Scheme applies will also be required to apply the Biodiversity Assessment Method and produce a Biodiversity Development Assessment Report (BDAR) to accompany a development application.

The Biodiversity Offsets Scheme will apply to local developments likely to significantly affect threatened species. These are defined as a development that:

- Impacts on an Area of Outstanding Biodiversity, or
- Exceeds the Biodiversity Offsets Scheme threshold, or
- Is likely to significantly affect threatened species, ecological communities or their habitats according to the test of significance in Section 7.3 of the Biodiversity Conservation Act, 2016.

The biodiversity impacts of developments that do not trigger the NSW Biodiversity Offsets Scheme threshold will continue to be assessed under Section 4.15 of the EP&A Act. Evidence that the Biodiversity Offsets Scheme threshold is not triggered and a test of significance (Section 7.3) is to be provided within an Ecological Assessment Report to accompany a development application, to demonstrate that the Biodiversity Offsets Scheme does not apply.

The assessment must be consistent with NSW Department of Environment and Climate Change DECC August 2007, Threatened Species Assessment Guidelines (to be updated by NSW Office of Environment and Heritage).

Consider the nature of the proposal and direct, indirect and cumulative impacts of the proposal given the habitat requirements of the species, populations or ecological communities and the habitats present within the study area (eg. consider shelter, foraging, breeding and life cycle requirements etc.). Consider the potential impacts of Key Threatening Processes.

Address State Environmental Planning Policy (SEPP) No 44 Koala Habitat Protection which requires assessment of potential or core koala habitat and the preparation of plans of management before development consent can be granted.



COMMONWEALTH

Ecological Assessment Notes

Under the Environment Protection and Biodiversity Act 1999 (EPBC Act), an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

A person who proposes a development or activity must undertake a “self-assessment” process to consider whether the action will have, or is likely to have, a significant impact on items of national environmental significance as listed under the EPBC Act such as nationally listed threatened species, populations and ecological communities, protected migratory species and world heritage areas.

The assessment must be consistent with the Department of Environment 2013, Matters of National Environmental Significance Significant impact guidelines I.1 Environment Protection and Biodiversity Act 1999.

It is the applicant’s responsibility, not Council’s, to refer any matters of likely significant impact on items of national significance to the Commonwealth for separate assessment and approval by the minister to ensure compliance with the EPBC Act.

Local Planning Provisions, Mapping and Guidelines

- BMCC Interactive maps
- BMCC Local Environmental Plans - LEP 2015, LEP 2005
- BMCC Development Control Plans - DCP 2015, Better Living Development Control Plan.
- BMCC February 2016, Vegetation Management Plan Guidelines
- BMCC 1999-2002 Native vegetation mapping in the Blue Mountains

Relevant resources and survey & assessment guidelines*

State

- NSW Department of Environment and Climate Change DECC August 2007, Threatened Species Assessment Guidelines The assessment of significance <http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf>
- NSW Office of Environment & Heritage 2016, Field Survey Methods and NSW Guide to Surveying Threatened Plants <http://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/surveys-and-assessments/field-survey-methods>
- NSW Department of Environment and Climate Change DECC 2009, Threatened species survey and assessment guidelines: field methods for fauna – Amphibians <http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf>
- Botanic gardens Trust Sydney & NSW Department of Infrastructure, Planning and Natural Resources November 2003, Survey Guidelines for Non-Vascular Plants A report produced under the NSW Biodiversity Strategy <http://www.environment.nsw.gov.au/resources/nature/SurveyGuideNon-VascularPlants.pdf>
- NSW Department of Environment and Conservation (DEC) November 2004, Working Draft Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities <http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf>
- NSW Office of Environment and Heritage Threatened species profiles, key threatening processes, recovery strategies, priority actions and database of threatened species, populations and endangered ecological communities - <http://www.environment.nsw.gov.au/threatenedspecies/>
- NSW BioNet the website for the Atlas of NSW Wildlife <http://www.bionet.nsw.gov.au/>
- ROTAP listed plants <http://plantnet.rbgsyd.nsw.gov.au/>

Commonwealth

- Department of Environment 2013, Matters of National Environmental Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Act 1999 <http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-1-1-matters-national-environmental-significance>
- Department of Environment Administrative Guidelines on Significance and threatened species and protected matters databases, profiles and policy statements (EPBC Act) www.environment.gov.au/epbc
- Department of Environment Protected Matters Search Tool <http://www.environment.gov.au/epbc/pmst/index.html>
- Atlas of Living Australia Database <http://www.ala.org.au>

Further Information

Blue Mountains City Council
Environmental Scientist
Development and Planning Services
TELEPHONE: (02) 4780 5000
FACSIMILE: (02) 4780 5555
ADDRESS: Locked Bag 1005
KATOOMBA NSW 2780
DX 8305 KATOOMBA
WEB: www.bmcc.nsw.gov.au
EMAIL: council@bmcc.nsw.gov.au