

## Introduction

This guideline is intended to provide advice to applicants on Preparing a Flora and Fauna Assessment Report.

### What is a Flora and Fauna Assessment Report?

A Flora and Fauna Assessment Report is an assessment report that identifies all potential species located on the subject site and where applicable surrounds. This report is used to determine the potential impacts of a proposed development on the identified species.

### When is a Flora and Fauna Assessment Report Required?

A Flora and Fauna Assessment Report is required for any development works on a property which:

Contains native vegetation; or

Contains remnant native trees, or

Is adjacent to native vegetation (e.g. National Parks, bushland reserves, wildlife corridors, or native vegetation on private property). Although a site may be cleared, survey work must still be undertaken to assess the sites capacity to act as a corridor or linkage for threatened species, or

Contains sensitive environmental areas likely to contain important habitat resources for fauna (although these may not be vegetated) such as riparian areas, wetlands or swamps, rocky outcrops, stormwater outlets, course woody debris, hollow bearing trees, caves, cliffs, and

The proposal will directly or indirectly impact on these areas, vegetation or natural features of the site (eg rock outcrop, slopes), for example by clearing, soil disturbance, runoff, waste water disposal, artificial lighting and implementation of Bushfire Asset Protection Zones.

### Scope of Report

Any report submitted should reflect the size, type and location of the development and be commensurate to the scope of the works proposed and consider its relationship to surrounding development.

### Technical Requirements of a Flora and Fauna Assessment Report

The technical requirements of a Flora and Fauna Assessment Report are to be provided as follows:

The content and methods of a Flora and Fauna assessment should be consistent with [Threatened Biodiversity Survey and Assessment Guidelines for Developments and Activities \(Working Draft\) \(DEC 2004\)](#) and other species specific NSW or [Commonwealth guidelines](#) identified as relevant to the site. For example see EPBC Act survey guidelines - [Survey Guidelines for Australia's Threatened Frogs](#) and [Southern Brown Bandicoot](#) and/or [BioBanking Assessment Methodology and Credit Calculator Operational Manual](#) if applicable.

1) Introduction including:

- the author of the study and who it was commissioned by;
- a description of the proposal;
- the regional context and physical description of the study area including hydrology, geology, soils, landforms, climate and types and conditions of the habitat(s) in, and adjacent to, the land affected by the proposal
- disturbance history and other relevant information relating to stratification requirements;
- any constraints or limitations on the study;

- how the report is structured; and
  - the study's aim and objectives.
- 2) An outline of the legislative requirements pertaining to the proposal addressing local, state and federal environmental planning instruments relevant to flora and fauna protection and management and biodiversity conservation.
  - 3) Maps including a locality map, study area map (preferably based on georeferenced aerial photography) clearly showing the development footprint or subject site (area of direct impacts including any clearing or excavation), and vegetation map.
  - 4) Data sources used to obtain background information.
  - 5) The identification of limitations and assumptions of the data and the study.
  - 6) A description of any consultation with stakeholders.
  - 7) Methodology including details of both the desktop and field survey methods employed including:
    - the methods used to determine the stratification units and how the units were sampled, and information about the spatial distribution and size of strata;
    - description of each stratification unit, the vegetation types in terms of structure and floristics, and a list of the dominant plant species in each growth stratum (trees, understorey, shrubs and groundcover);
    - as part of the habitat assessment requirements, each vegetation type must have a description of the area's disturbance (prior clearing/logging, fire regime, flooding), a description of the weeds present and their density, and comments on the suitability of the area as habitat for species, populations and ecological communities of conservation significance;
    - survey techniques utilised and the intensity of sampling in each strata;
    - type and number of traps, their layout described and mapped, baits, and the number of survey nights for each technique;
    - sampling dates, times and weather conditions;
    - the precise location and layout of the stratification units, quadrats, traverses and sampling sites, vegetation types, and relevant species distribution (presented as grid references and maps); and
    - data analysis methods, including any criteria used to categorise areas of high biodiversity.

The survey must cover the entire site and beyond if necessary, not just the area proposed for development. Additional information requirements will depend on the aim of the survey being conducted. For example, if the survey targets arboreal mammals then information on the density of trees with large and/or small hollows will be relevant.

The technical information should be sufficiently detailed to enable the field survey to be replicated. The choice of field methods and extent of survey should be justified, and any constraints noted.

- 8) Results of all surveys and data gathering, including:
  - a list of all species of flora and fauna (native and introduced species) identified onsite.
  - a list and map showing the location of all threatened species, populations, ecological communities recorded or known or likely to occur in the study area and locality;
  - summaries of the data, including which species were found at which sites, strata vegetation or habitat types, and by which methods they were located;
  - vegetation community description and map indicating structure, spatial distribution, condition, integrity, nature of any disturbance and consideration of the likely original vegetation community;
  - fauna habitat description on the site and consideration of corridors, migratory routes and drought refuges;
  - maps of survey method locations;
  - any general or unusual observations;
  - maps of environmental features, vegetation types and habitat types;

- results of any modelling or statistical analysis of data;
  - maps of any areas of high biodiversity or other areas of special significance;
  - photos of the study area and subject site; and
  - raw data (copies of original data sheets are acceptable) should be included in an appendix.
- 9) Discussion of results including:
- a summary of the information collected, an assessment of the likelihood of those species, populations or ecological communities identified occurring with the study area, and the general habitat value of the study area;
  - Consideration of the nature of the proposal and actual & cumulative impacts of the proposal (including impacts resulting from any bushfire asset protection zones, onsite effluent disposal areas and stormwater management or landscaping works etc.) given the habitat requirements of the species, populations or ecological communities and the habitats present within the study area.
  - how the findings of the study can be implemented or mitigated;
  - limitations and further issues that may need to be addressed;
  - recommendations for further work; and
  - citation of all relevant references.
  - Assessment of whether the proposal will have or is likely to have a significant impact on rare or threatened species, populations, their habitats and endangered ecological communities as determined by both State Legislation and Commonwealth Legislation.
- 10) Assessments of Significance to determine whether the development will have a significant effect on threatened species, populations or ecological communities, or their habitats under s5A of the *Environmental Planning and Assessment Act 1979*;
- 11) Assessment of any whether the development or action is likely to have a significant impact on any Matter of National Environmental Significance (MNES) as listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Assessment of potential impacts on MNES must address the 'significant impact criteria', identified the Commonwealth *Significant Impact Guidelines 1.1: Matters of National Environmental Significance*, see online <http://www.environment.gov.au/epbc/publications/nes-guidelines.html>
- 12) Conclusion summarising the results of the assessment and the need for a Species Impact Statement and or Referral to the Commonwealth.
- 13) Recommendations for mitigating, ameliorative or compensatory measures to ensure expected impacts are avoided, minimised or managed appropriately, including the provision of adequate buffers to sensitive features and the protection and special management of resources/habitat required by likely threatened species/populations/communities.
- 14) References – include references for all documents referred to in the assessment.

The report must contain information regarding the relevant licensing of all field workers and a statement on whether the consultant has been accredited under relevant Industry Accreditation Schemes for individuals involved in ecological assessment.

All reports must contain detailed specifications of data in a spreadsheet form that is used for the Atlas Wildlife data. The "Spreadsheet for Recording and Submitting Research Data" can be downloaded from the NSW Office of Environment and Heritage website at <http://www.environment.nsw.gov.au/wildlifelicences/ScientificResearchLicences.htm>.

Details of the animals, plants or other organisms captured, observed or collected including species identification, precise locality [easting and northing and Australian Map Grids (AMGs) and date of trapping, observation or collection are to be supplied to Council in electronic format, for incorporation into Councils database. Information obtained should also be forwarded to centralised databases such as those managed by OEH, Birds Australia, the Australian Museum and the Royal Botanic Gardens.

During the pre-DA advice stage, the applicant should seek advice from Council regarding specific requirements and level of survey needed. The level of survey may vary depending on the nature of the proposal.

Attached to these guidelines is a flowchart demonstrating the process to be followed when preparing a Flora and Fauna Assessment Report.

## Other General Requirements of Reporting

All reports are to:

- include an executive summary,
- be professionally prepared,
- include calculation formulae,
- be clearly referenced using an accepted academic referencing system (eg. Harvard),
- provide analysis of development against relevant Commonwealth and State Legislation,
- provide analysis of development against relevant State and Regional Planning Policies,
- provide analysis of development against relevant Local Environment Plan, Development Control Plan and Policies,
- include a conclusion detailing key points,
- provide development recommendations and construction methodologies and,
- provide qualifications of author.

### NOTE: Qualifications of Author

Council requires that a flora and fauna assessment be undertaken by suitably qualified and experienced consultant including all field staff.

In the instance that a site presents a range of biodiversity issues then a specialist or a number of specialists should be engaged to ensure that the flora and fauna assessment appropriately addresses all botanical or faunal aspects of the subject site. The investigator should ideally have suitable local knowledge of the region in question and be independent of the applicant or owner of the proposed development activity.

Council considers suitable experience and qualifications to be (but not limited to):

accreditation under relevant ecological consultant industry accreditation schemes (pending at time of preparation);

demonstrated extensive experience with plant and/or animal survey work and the interpretation of its conservation significance (particularly impact assessment);

extensive experience in the field identification of plants and/or animals. Investigators must be able to identify the threatened biodiversity relevant to the locality that requires survey, as well as similar species that may be confused with these;

experience in any additional tasks which the investigator will be undertaking;

relevant tertiary qualifications are preferable but not essential if the above criteria are met; and

relevant licences (including the NPWS Scientific Licence for flora and fauna survey work) and approvals to undertake field investigations of plants and animals (including Animal Research Authority).

The proponent or applicant should consider requesting the investigator to provide *Curricula vitae* (CVs) for all investigators involved in the study, referees and examples of reports completed for previous work of a similar nature especially those conducted in the region. It is advisable to contact the referees and review the reports to assist in assessing the suitability of the investigator. All investigators undertaking flora and fauna surveys should be appropriately insured. The details of relevant insurance policies should be included in their proposal to undertake the work and should include: type of insurance; amount of cover; and the name of the legal entity that is insured.)

For further information contact Natural Environment Unit on 9942 2111 or [via webmail](#)

### Definitions

**Asset Protection Zone (APZ)** often referred to as a fire protection zone, usually consists of both an Inner and Outer Protection Area as defined below. The APZ aims to protect human life, property and highly valued public assets and values. An area surrounding a development managed to reduce the bush fire hazard to an acceptable level. The width of the APZ will vary with slope, vegetation and construction level. The APZ, consisting of an area maintained to minimal fuel loads and, for subdivision, comprising a combination of perimeter road, fire trail, rear yard or a reserve, so that a fire path is not created between the hazard and the building (NSW Rural Fire Service, 2006, Planning for Bushfire Protection).

**Development** means:-

- (a) the use of land, and
- (b) the subdivision of land, and

- (c) the erection of a building, and
- (d) the carrying out of a work, and
- (e) the demolition of a building or work, and
- (f) any other act, matter or thing referred to in section 26 that is controlled by an environmental planning instrument, but does not include any development of a class or description prescribed by the regulations for the purposes of this definition (*Environmental Planning and Assessment Act, 1979*).

**Development Consent** means consent under Part 4 of the *Environmental Planning and Assessment Act, 1979* to carry out development and includes, unless expressly excluded, a complying development certificate (*Environmental Planning and Assessment Act, 1979*).

**Ecological Communities** means an assemblage of species occupying a particular area (*Threatened Species Conservation Act, 1995*).

**Effluent Disposal Area** in relation to a sewage management facility, means the area of land (if any) where it is intended to dispose of the effluent and any by-products of sewage from the facility, or to which the effluent and by-products are intended to be applied (Local Government (General) Regulation, 2005)

**Endangered Ecological Communities** means an ecological community specified in Part 3 of Schedule 1 of the *Threatened Species Conservation Act, 1995*.

**Environmental Planning Instrument** means an environmental planning instrument (including a SEPP or LEP but not including a DCP) made, or taken to have been made, under Part 3 and in force (*Environmental Planning and Assessment Act, 1979*).

**Habitat** means an area or areas occupied, or periodically or occasionally occupied, by a species, population or ecological community and includes any biotic or abiotic component (*Threatened Species Conservation Act, 1995*).

**Inner Protection Area (IPA)** forms part of the Asset Protection Zone as defined above. For forest vegetation types an IPA is an area located immediately adjacent the asset, incorporate a defendable space and significantly reduce the heat intensities at the building surface (NSW Rural Fire Service, 2009).

**Outer Protection Area (OPA)** forms part of an Asset Protection Zone as defined above. For forest vegetation types and OPA is a fuel reduced area that is designed to reduce the potential flame length by slowing the rate of spread, filtering embers and suppressing crown fires (NSW Rural Fire Service, 2009).

**Populations** means a group of organisms, all of the same species, occupying a particular area (*Threatened Species Conservation Act, 1995*).

**Threatened Species** means a species specified in Part 1 or 4 of Schedule 1, Part 1 of Schedule 1A or Part 1 of Schedule 2 of the *Threatened Species Conservation Act, 1995*.

***The definitions contained are derived from the documentation identified after each definition. Accordingly, the definition contained within the original documentation supersedes the definition contained within this section.***

**Flowchart Process for Undertaking a Flora and Fauna Assessment**

