

Introduction

This guideline is intended to provide advice to applicants on preparing a Biodiversity Management Plan.

What is a Biodiversity Management Plan?

The purpose of a Biodiversity Management Plan is to help applicants identify, protect and manage native vegetation and fauna habitat. The aim of the plan is to provide a schedule of impact mitigation measures along with ongoing conservation, restoration and maintenance activities for the bushland to be retained on the site. The plan should detail the tasks, procedures and methods to achieve this.

When is a Biodiversity Management Plan required?

A Biodiversity Management Plan may be requested prior to development consent being issued, in order for Council to consider potential impacts and mitigation measures for development. In some cases, a biodiversity management plan may be required as a condition of development consent subject to review and approval by Council prior to issue of a construction certificate...

Scope of the Biodiversity Management Plan

These Biodiversity Management Plan Guidelines are based on industry best practice for minimising the potential impacts of developments and activities on biodiversity. They do not replace the need for specialist input. It is recommended that advice on the applicability of the guidelines to specific sites and development activities in Warringah be sought from Council and a qualified ecologist prior to lodgement of the development application.

The scope of the Biodiversity Management Plan should be commensurate with the size, type and location of the development.

Content and technical requirements of a Biodiversity Management Plan

Much of the content listed in items 1 and 2 below is likely to be determined from review of the flora and fauna assessment that is typically submitted as part of the development application.

The following content and technical requirements should be included in a Biodiversity Management Plan:

1. *Introduction and Site Description*

- Identification and description of the site and surrounds
- The ecological value of existing bushland and bushland impacted upon by the proposed development
- The identification of site constraints including significant environmental features such as; native vegetation; rare or threatened biodiversity; fauna habitats (e.g. tree hollows, rock outcrops, aquatic habitats, wetlands and drainages) and wildlife corridors;
- Identification of vegetation condition and resilience, including the identification of weeds and weed sources on site.
- The inclusion of site photos that illustrate site conditions. These photos are also useful in setting up photo points used to monitor progress of any management actions (see item 8 below).

2. *Identification of Potential Impacts to Biodiversity*

- The nature and extent of any proposed construction activities (e.g. cut and fill, clearing, etc.)
- The nature and extent of any bushfire hazard Asset Protection Zones
- The nature and extent of any proposed operational activities (e.g. agriculture, landscaping, materials storage, on-site wastewater/effluent disposal).
- Identification of potential indirect impacts to any vegetation in areas adjoining the development

3. *Impact mitigation pre-clearing and during clearing works*

Once the site has been adequately described, detailed staging of impact mitigation measures must be identified for the pre-clearing, clearing, construction and post construction phases of the project. The implementation of many of

the following technical requirements may involve compliance certification by Council and / or the Principal Certifying Authority as part of the development approvals process.

Where relevant, the Biodiversity Management Plan should include provision for and description of the following:

Pre-clearing

- Requirements for environmental site inductions for all personnel (including contractors) working on the site.
- For bushfire Asset Protection Zones, survey, and mark out on the ground the extents of all Inner Protection Areas, Outer Protection Areas, habitat features to be retained and vegetation to be retained. This is required to protect against unapproved vegetation clearing and associated habitat disturbance.
- Installation of temporary fencing and tree protection measures
- Installation of permanent fencing for all exclusion zones and or restricted activity areas including *associated boundary signage (in some circumstances this may be undertaken post clearing)*

During clearing

- Provision for the supervision of clearing works by a licensed wildlife carer or ecologist
- Requirements for pre-clearing fauna surveys undertaken by an ecologist
- Requirements for the treatment and removal of weeds and vegetation waste from the site
- For bushfire Asset Protection Zones, prepare an outline of how the APZ is to be maintained in accordance with bushfire hazard reduction requirements for fuel load management and how weeds are to be effectively controlled/removed. Where practical weeds should be removed to reduce fuel loads in preference to removal of native vegetation. Requirements for staged removal of fauna habitat features such as hollow bearing trees and bushrock which are initially marked and protected from the first stage of clearing. Non habitat vegetation is then removed to allow fauna to vacate. Habitat features are then removed during a second stage of clearing conducted at least 24 hours post the first stage clearing and under close supervision by the project ecologist
- A description of mitigation measures associated with the proposed method of bushland clearing including guidance on the type of machinery to be used and appropriate locations for stockpiling of cleared vegetation. Trees should not be felled into areas of retained vegetation
- Provision for tree hollow and habitat salvage and relocation.

For larger developments such as subdivisions, the content and technical requirements identified in items 1, 2 and 3 above may be incorporated into Construction Environmental Management Plans , Environmental Site Management Plans or Works Environmental Protection Plans as required by development consent conditions. These plans are typically implemented by the project ecologist on behalf of the developer and / or construction contractor.

4. Management of retained vegetation and rehabilitation areas

Areas of retained vegetation and areas to where vegetation is to be re-established will typically require ongoing management including bush regeneration and maintenance of revegetation. This may include the management of areas permanently set aside to 'offset' the impacts of a development. The Biodiversity Management Plan should define tasks required for the management of such areas including:

- Provision for fauna habitat replacement including the installation of artificial hollows (nest boxes) noting the number, type and location
- How the site is to be broken up into work zones, based on vegetation condition or areas with different targets and priorities
- A description of proposed bush regeneration strategies
- A description of targets for native/weed ratios to be reached for each year of work on site
- Detailed methodology of the work to be carried out in each zone including timing of each task
- The priority order for each task and who will be responsible for undertaking each task
- If planting or brush matting is required, provide details on species,, seed collection and provenance, propagation, site preparation, planting density, planting methods and maintenance including watering
- Provision for vertebrate pest (e.g. cats, dogs or foxes) management.

5. Prepare maps and diagrams:

Maps and diagrams must be prepared to accompany the Biodiversity Management Plan identifying the following:

- Retained vegetation including the different works zones where applicable,
- Constraints such as threatened species and natural features to be retained and protected

- Vegetation condition mapping and / or weed density mapping
- Any drainage, wetlands or waterways present on site
- Areas subject to stabilisation measures (e.g. Terracing or installation of coir logs) and sediment and erosion controls
- Areas proposed for revegetation.

6. *Prepare a work schedule / Gantt chart:*

To assist in the implementation of the Biodiversity Management Plan, a work schedule or Gantt Chart should be prepared addressing the following:

- The timing or staging of all tasks in the project including estimated timing of commencement, task duration and completion
- Stages for performance monitoring and review to allow compliance certification to be undertaken for works that are part of development consent
- Ongoing maintenance is to be built in to all projects, as part of project review, to ensure long-term project success.

7. *Performance evaluation targets:*

In order to provide an effective method of assessing the success of the Biodiversity Management Plan, performance evaluation targets such as the following must be provided:

- For each zone, clear criteria against which the achievement of the outcomes or objectives can be assessed. For example: By the end of the second year of the project a ratio of weed density/endemic native plant density not exceeding 5% weed density and not less than 95% native plant cover must be achieved.

Ongoing maintenance will be required to ensure that ratios and performance targets are maintained in the long-term.

8. *Monitoring/project review /corrective actions:*

To assess the success of the Biodiversity Management Plan against the established performance evaluation targets, subsequent reporting will be required. This is to include:

- Demonstrated compliance with performance evaluation targets
- Identification of deficiencies and corrective actions taken to ensure targets are met. Development consent conditions may require that, at the completion of the project, the Project Ecologist is to provide a statement /supporting certification that performance targets have been reached and maintained for at least two years. The statement of certification must provide details of the results and methodologies used to determine compliance with the approved plans.
- A photographic record at regular intervals (e.g. 6 monthly intervals) before, during and after works is to be provided with the final compliance certification.

9. *Reporting:*

Copies of six-monthly reports are to be provided to Warringah Council's Natural Environment Unit.

Other general requirements of reporting

All reports are to:

- Include an executive summary
- Be professionally prepared
- Be clearly referenced using an accepted academic referencing system (e.g. Harvard)
- Provide a statement of compliance against relevant commonwealth and state legislation and policy where relevant
- Include a conclusion detailing key points
- Provide development recommendations and construction methodologies
- Provide qualifications of author.

NOTE: Qualifications of author

Council requires that Biodiversity Management Plans are to be developed and implemented by suitably qualified and experienced persons.

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

- For the developing of a Biodiversity Management Plan and acting as project ecologist; a qualified ecologist preferably with membership to the NSW Ecological Consultants Association
- For supervision of on ground works such as weed removal, bush regeneration and revegetation, a minimum two years supervising experience of on-ground bush regeneration work and TAFE Certificate III in Conservation and Land Management - Natural Area Restoration or equivalent.
- For undertaking the works, TAFE Certificate II in Conservation and Land Management-Natural Area Restoration or equivalent.

For further information please 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 by establishing 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 consists 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*).

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).

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 woodland and forest vegetation types an IPA is an area located immediately adjacent to the asset which incorporates a defendable space and significantly reduces the heat intensities at the building surface (NSW Rural Fire Service, 2009).

Offsets work by protecting and managing biodiversity values in one area in exchange for impacts on biodiversity values in another. For example, if a development requires an area of native vegetation to be cleared, another area of similar vegetation can be protected, improved and managed for conservation as an offset.

Onsite Wastewater means effluent, being any matter or thing, whether solid or liquid or a combination of solids and liquids, which is of a kind that may be removed from a human waste storage facility, sullage pit or grease trap, or from any holding tank or other container forming part of or used in connection with a human waste storage facility, sullage pit or grease trap (*Local Government Act 1993*).

Onsite Wastewater System means:-

- (a) a human waste storage facility, or
- (b) a waste treatment device intended to process sewage, and includes a drain connected to such a facility or device (Local Government (General) Regulation 2005).

Outer Protection Area (OPA) forms part of an Asset Protection Zone as defined above. For woodland and 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).

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* and/or listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

Threatened Population means a population specified in Part 2 of Schedule 1 of the *Threatened Species Conservation Act 1995*.

Threatened Ecological Community means an ecological community specified in Part 3 of Schedule 1, Part 2 of Schedule 1A or Part 2 of Schedule 2 of the *Threatened Species Conservation Act 1995* and/or listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

Species of animal or plant includes any defined sub-species and taxon below a sub-species and any recognisable variant of a sub-species or taxon (*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.