Maitland DCP 2025

Appendix C: Biodiversity Guidelines

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VERSION	DATE ADOPTED	CHANGES
1.0		New DCP Appendix

Introduction

The Biodiversity Guidelines (this Guideline) have been developed to support Chapter 2: Environmental Considerations, Appendix A: Application Requirements – Other Development, and Appendix B: Application Requirements – Minor Development of the Maitland Development Control Plan 2025 (DCP). The Guideline provides supporting explanatory information and guidance for a series of different assessments and plans required by Council for a series of biodiversity and conservation matters throughout the Maitland Local Government Area (LGA). In summary, these are:

- Flora and Fauna Assessments
- Vegetation Management Plans
- Biodiversity Management Plans
- Squirrel Glider Assessment Considerations

1. Flora and Fauna Assessments

This section outlines the minimum requirements for preparing a Flora and Fauna Assessment (FFA) to support development applications under Council's DCP. The purpose of the Flora and Fauna Assessment is to assess potential impacts on biodiversity and ensure compliance with relevant environmental legislation and policies.

1.1. When is a Flora and Fauna Assessment required?

A Flora and Fauna Assessment is required when the Biodiversity Offset Scheme is not triggered but impacts to biodiversity still require evaluation. Council's DCP provides the following triggers that determine whether a Flora and Fauna Assessment should be included as part of a development application:

a. Development which involves significant disturbance or removal of native vegetation (i.e., removal of more than five (5) native trees, or is likely to impact upon threatened species habitat, threatened ecological communities or important habitat features such as hollow-bearing trees, watercourses, wetlands, or dams; or
b. Development which involves clearing or disturbance of native vegetation overlapping Council's Green and Blue Grid or within Council's Biodiversity Corridors; or
c. Potential significant biodiversity impacts which are identified by Council following a site inspection.

1.2. Who can prepare a Flora and Fauna Assessment?

The report must be prepared by a qualified and experienced ecological consultant who holds:

- Tertiary qualifications in an ecological field obtained from an accredited institution; and
- Relevant experience in flora and fauna survey and impact assessment; and
- A current Scientific Licence issued under section 132C of the *National Parks and Wildlife Act 1974*, and an Animal Research Authority under section 25 of the *Animal Research Act 1985*, if conducting any fauna survey.

1.3. What should the report include?

1.3.1. Site Summary

All proposals must include a summary of the study area which includes all areas likely to be (directly and indirectly) impacted by the development.

The report must include a map of the study area clearly showing site locality, Subject Area boundaries, Impact Area (including Asset Protection Zones), and important environmental features including:

a. Council's Green & Blue Grid and Biodiversity Corridors (as per Council's Environmental Sustainability Strategy 2030)
b. Watercourses, waterbodies, and wetlands
c. Steep slopes
d. Significant habitat features including hollow-bearing trees, stick nests, termitaria, rock outcrops, waterbodies, and caves
e. Location of all survey locations such as vegetation plots and monitoring devices
f. Known threatened species records
g. Distribution of vegetation on site including non-native vegetation and Plant Community Types (PCTs), including the total area of each PCT and the area to be impacted

1.3.2. Summary of the Proposal

The report must provide an overview of the proposal, including details of activities during and after construction, as well as any potential direct and indirect impacts. These may include vegetation clearing for construction or asset protection zones, future 10/50 clearing entitlements, loss of habitat connectivity, risk of fauna-vehicle collisions, sedimentation and erosion, and reduced ecosystem health due to edge effects.

Also required is a summary of legislation and Council policy relevant to biodiversity conservation, outlining their relevance and application to the development. At minimum this should include evidence that the biodiversity offsets scheme is not triggered in accordance with the *Biodiversity Conservation Act 2016*. Further consideration may be required for the following, depending on the potential impacts of the proposal:

- Council's Environmental Sustainability Strategy 2030, with particular reference to the Green & Blue Grid and Biodiversity Corridors
- *Maitland Local Environmental Plan 2011*
- *Fisheries Management Act 1994*
- *Environment Protection and Biodiversity Conservation Act 1999*
- Maitland Development Control Plan 2025

1.3.3. Survey Methodology

The scope and type of survey required are determined by the likelihood of threatened species occurring on site or relying on its habitat, along with the expected extent of impacts from the proposed development. The following should be considered when determining survey scope:

- **Threatened fauna**: Where the impact area is greater than 0.5 ha or significant habitat features, such as hollow-bearing trees or aquatic habitat, are impacted, targeted surveys for threatened species with the potential to occur on site must be completed. In other cases, assumed presence/absence for threatened fauna is acceptable with adequate justification. The flow chart in Figure 1 should be used to determine whether targeted squirrel glider surveys are required.
- **Threatened flora**: Where the site is potential habitat for threatened flora, parallel transects no less than 5 metres apart must be completed at an appropriate time of year for the target species. Otherwise, 2 hours random meander per 0.5 ha is suitable.
- **Native vegetation**: A minimum of one BAM plot is required per vegetation zone unless the proposal does not impact mature trees or threatened ecological communities.

Surveys must be conducted in accordance with available taxa-specific guides, including peer reviewed guidelines, survey guidelines published by state or commonwealth agencies, and any additional guidelines produced by Council. Any variation from the guidelines requires adequate justification which must be detailed in the assessment.

Surveys must also consider the detectability of the species that have the potential to occur and be undertaken in the most appropriate season for the species being targeted.

1.3.4. Survey Results

Details of the survey methodology undertaken must be provided including:

- Sampling dates, times and weather conditions.
- Methods used to determine sampling units.
- Survey techniques utilised and the intensity of sampling for each entity, including targeted survey efforts for threatened species.
- Map(s) indicating the precise location for all sampling efforts.

The results of surveys must be provided including:

a. A list of all flora and fauna species detected in the including scientific and common name and conservation status.
b. Map(s) of environmental features, vegetation types and habitat types; location of threatened species.
c. Description of vegetation types in terms of structure and floristics, and a list of the dominant plant species in each growth stratum.
d. For each vegetation type, a description of disturbance, weeds present and their density, and comments on the suitability of the area as habitat.
e. Populations or communities; areas of high biodiversity or other areas of special significance.
f. Photos of the study area and subject site.
g. Raw data including floristics data from any BAM plots completed.

1.3.5. Assessment of Impacts

The report should include an assessment of both direct and indirect impacts of the proposal on biodiversity values including threatened entities, habitat supporting threatened entities, connectivity, as well as Council's Green & Blue Grid including Council's biodiversity corridors.

Test of Significance

The report should include a Likelihood of Occurrence table to determine which entities have low, moderate, high, or known likelihood of occurring on the site. The table must include all threatened entities within a 10km search of the NSW Bionet database. Other databases such as the Atlas of Living Australia may also need to be searched, particularly for bird records. Appropriate justification must be provided for any species considered to have a low likelihood of occurrence.

All entities with a moderate, or greater likelihood of occurrence must be assessed within a Threatened Species Test of Significance (ToS) in accordance with Section 7.3 of the *Biodiversity Conservation Act 2016*. Aggregate ToS should only be completed for species with similar ecological requirements.

Conclusions drawn within ToS should be supported by evidence rather than by opinion. Where there is a lack of scientific certainty about the potential impacts on a threatened species or ecological community, the precautionary principle should be applied.

Matters of National Environmental Significance

When a threatened entity under the *Environment Protection and Biodiversity Conservation Act 1999* has a moderate or greater likelihood of occurring on site, likely impacts must be assessed under Significant Impact Guidelines 1.1 - Matters of National Environmental Significance.

1.3.6. Reducing Impacts

All proposals must make reasonable and genuine attempts to avoid any impacts areas of high biodiversity value. If this is not possible, then options to minimise impacts should be recommended. Providing a genuine and robust exploration of avoid and minimise measures is particularly important on properties with an environmental zoning or for developments that impact Council's Green and Blue Grid.

Where it is not possible to avoid or minimise impacts on areas of high biodiversity value, any residual impacts should be offset. The type and scale of offset is dependent on the extent of residual impacts and will be assessed on a case-by-case basis. Suitable offsetting measures may include the implementation of a Vegetation Management Plan to compensate for the loss of environmentally sensitive land, or installation of artificial/augmented hollows where hollow-bearing trees are removed.

1.3.7. Conclusion

The conclusions must summarise the results of the assessment and legislative compliance with relevant assessment criteria. This must include whether the proposal is likely to significantly affect threatened species or ecological communities, or their habitats according

to Section 7.3 of the BC Act. It must also summarise the recommendations to avoid, minimise and offset impacts to threatened entities and areas of high biodiversity value.

2. Vegetation Management Plans

This guideline provides the minimum requirements for preparing a Vegetation Management Plan (VMP) when required for development applications in Maitland LGA. It ensures that vegetation is managed sustainably, maintaining ecological integrity while allowing for responsible development.

2.1. When is a VMP required?

A VMP may be required where retention or rehabilitation of native vegetation and/or habitat is required within:

a. Council's Green and Blue Grid,
b. Council's Biodiversity Corridor, or
c. where works subject to a Controlled Activity Approval will be undertaken within 40m of the top-of-bank of a mapped watercourse, or
d. when outlined through the development approvals process.

2.2. Who can prepare a VMP?

The VMP must be prepared by a qualified ecologist with experience in bush regeneration, or a bush regenerator who holds a minimum Diploma Conservation and Land Management (or equivalent) and a minimum 3 years' experience in practical ecosystem restoration.

2.3. What should the VMP include?

3. The document should be clear, concise, and site specific while maintaining detail in which a non-experienced person can understand the issues and practical management strategies to be implemented on site to meet objectives.

3.1.1. Site Description

The existing site context must be clearly described with references to a range of mapping, including historical, if relevant. At a minimum the site description should include:

a. Location details, including property description and Lot/DP numbers
b. Aerial imagery and site photographs
c. Existing plant community types and conditions
d. The extent of weed cover accompanied with weed density mapping that categorises areas of the site into classes according to the condition of bushland when considering percentage native cover, percentage weed cover, and level of intervention required
e. Presence of threatened species, ecological communities, or habitat features
f. Site constraints (e.g., erosion risk, weed infestations, bushfire risks)

3.1.2. Aims and Objectives

The aims and objectives are to be site specific and led by the following principles:

a. Maintain or enhance biodiversity, habitat and natural values
b. Manage, control and eliminate invasive species
c. Establish a low-maintenance, self-sustaining vegetation community that supports long term ecological resilience and minimal intervention
d. Promote and educate on native ecological sustainability through revegetation and restoration

3.1.3. Management Zones

All areas covered within the VMP must be separated into management zones to reflect the extent and type of management required, with consideration given to the different plant community types and ongoing land uses. Examples of management zones include:

- **Conservation Zones -** Protection and enhancement of remnant vegetation with low to no weed cover or management issues
- **Rehabilitation Zone -** Areas requiring active restoration of degraded vegetation, separated by level of management required
- **Revegetation Zone -** Areas for mass revegetation, separated by targeted vegetation communities
- **Recreational Zone -** Managed park/reserves integrated within the urban design
- **Asset Protection Zone -** Areas of managed Asset Protection Zones as per development plans
- **Buffer Zone –** management of edge effects between development and natural vegetation

Each management zone must be clearly mapped and described within the VMP with the following information:

a. General description of the zone
b. Plant Community Type and overview of dominant native and exotic flora species
c. Photo points
d. Estimated exotic cover
e. Estimated native vegetation cover
f. Habitat features
g. Erosion point
h. Rubbish/litter
i. Other management issues.

3.1.4. Management Actions

Management actions required to meet the objective of each zone must be described in sufficient detail including where each task will be undertaken, how each task will be completed and the responsible persons/team responsible for carrying out each task. Tasks may include, but are not limited to:

- Site management (i.e., site cleanup, soil remediation, stabilisation of disturbed areas etc.)
- Target weed species and weed control methods (manual removal, herbicide use, etc.)
- Erosion and sediment control measures including stabilisation of watercourses

- Revegetation strategies (species selection, planting techniques, areas of mass planting and infill plantings)
- Fauna habitat enhancement (ground log and rock relocations, frog hibernacula)
- Bushfire hazard reduction techniques (in compliance with Rural Fire Service guidelines)
- Fencing and access control to prevent unauthorised disturbance
- Signage to educate public on restoration area

All species included in the revegetation must be associated with the target Plant Community Type and be of local provenance with a focus on locally sourced seeds.

All boundaries between the development and the natural areas/revegetation area of the VMP must be fenced with fauna friendly materials. Signage is to be placed along the fence line to educate on the restoration efforts.

3.1.5. Performance Criteria and Monitoring

Completion criteria must be set as a benchmark for regular monitoring. Targets are to be prescriptive, and percentage based.

Unless otherwise agreed by Council, standard completion criteria target for the end of a 5-year program will require:

- Woody weed/priority weed cover of <1%
- Other weeds at <5%
- Revegetation survival rate of >80%

The completion criteria are to include a trending target for the end of each year's maintenance period. End of year targets may be management zone specific to allow for individual challenges across the site.

Monitoring is to be consist with the follow methods:

- Photo point monitoring within each management zone
- 10x10m flora monitoring plot within each natural area management zone (i.e. conservation, rehabilitation and revegetation or equivalent)
- Details of results against completion criteria and trends against previous years
- Whole site weed inventory and mapping
- Details of ongoing and new management issues
- General site conditions
- Recommendations

Monitoring methodologies must be detailed within the VMP. A monitoring report is to be submitted annually to Council. At the submission of each annual monitoring report, Council may require a site walkover with relevant stakeholders.

3.1.6. Costing

Council may require a security for the cost of the maintenance of the VMP works by way of bond or bank guarantee. Where required, the VMP must include an estimation of costs for the

implementation of the works program provided. A security bond will be accepted enabling a Subdivision Certificate to be issued as an alternative to full implementation of the VMP. The value of the bond will be 120% of a cost estimate to implement the first 5 years of the VMP. Release of the bond will be staged subject to certification that VMP milestones have been met. All price estimates are to be itemised. The bond will generally be progressively released in accordance with the below:

a. 12 months after the completion of primary weeding (50% of bond);
b. 36 months after the completion of primary weeding (25% of bond);
c. 60 months after the completion of primary weeding (25% of bond).

Council reserves the right to vary bond releases on a case-by-case basis.

4. Biodiversity Management Plans

A Biodiversity Management Plan (BMP) provides details on the practical actions required to minimise and mitigate impacts on biodiversity during development activities. It may be integrated into Construction Environmental Management Plans (CEMP) or be a standalone document used by personnel on site during development works.

4.1. When is a BMP required?

A BMP is required when development will likely result in direct or indirect impacts to biodiversity values, such as significant habitat features, fauna connectivity, and Council's Green & Blue Grid. It 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 BMP may be required as a condition of development consent subject to review and approval by Council prior to issue of a subdivision works or construction certificate

4.2. Who can prepare a BMP?

Council requires that BMPs are to be developed and implemented by a suitably qualified and experienced person with a minimum 3 years relevant experience as a qualified ecologist. The supervision of on ground works should also be undertaken by a qualified ecologist preferably with formal spotter catcher training. Project ecologists with lesser experience may assist under the direct on ground supervision from a person with the aforementioned experience.

4.3. What should the BMP include?

The scope of the BMP should be commensurate with the size, type and location of the development. Where impacts to biodiversity are minimal (e.g., no threatened entities are likely to be impacted) a scaled-back version may be suitable.

It is recommended that advice on the applicability of the guidelines to specific sites and development activities in Maitland be sought from Council and a qualified ecologist prior to lodgement of the development application.

4.3.1. Minimum Requirements

At minimum, the BMP document should include the following content:

a. Introduction and site description
b. Identification of likely direct and indirect impacts to biodiversity values including nature and extent of proposed activities
c. Work schedule including timing/staging of tasks, and timing of monitoring and reporting
d. Performance targets that include clear criteria against which the achievement of the outcomes or objectives can be assessed
e. Monitoring strategy to evaluate BMP tasks against performance targets

Reporting on the progress of the BMP should be provided annually and at completion of BMP works. At minimum, reporting should include:

a. Summary of works completed including location details for any compensatory hollows or connectivity structures installed
b. Monitoring results and evaluation against performance targets
c. Adaptive management measures if required
d. Any other management issues

4.3.2. Site-specific Requirements

Each development presents distinct features, such as the presence of threatened entities, sensitive habitats, or water bodies which must be carefully considered and integrated into the BMP. The site-specific requirements of a BMP are crucial for addressing the unique impacts of each development. Where relevant, the BMP should include provision for and description of the following management measures:

Protection of Ecological Features

The BMP must detail protective measures for retained ecological features through the establishment of exclusion zones during the construction phase. Ecological features requiring protection during construction include:

- Vegetation outside of the clearing footprint
- Individual native and amenity trees to be retained
- Threatened flora
- Aquatic habitats

The required level of protection is based on the risk of intrusion and the sensitivity of the excluded area, ranging from reflective bunting for low-risk zones to chain-wire fencing for highly sensitive sites. Determining the most suitable method of establishing exclusion zones should generally be in accordance with Guide 2: Exclusion Zones within Transport for NSW Biodiversity Management Guidelines (2024).

Tree Protection Zones (TPZs) must be established for all trees at risk of being impacted during construction works. This may include trees on land adjacent to the development site. TPZs are to be consistent with Australian Standard (AS 4970). This includes installation of

fencing to prevent access by machinery to the TPZ and signs clearly identifying the TPZ. Storage of materials and parking of plant or vehicles should be avoided within the TPZ.

Exclusion zones including TPZs must be marked on a clearly labelled plan and made available on site during construction works. Plans should also be included in the CEMP and provided in the site induction.

Monitoring of exclusion zones and TPZs should be undertaken at least weekly and repairs to fencing made as required. Advice from an AQF5 arborist is required where vegetation shows signs of stress.

Clearing Protocol

Where hollow-bearing trees or other important fauna habitat features are proposed for removal, the BMP must detail a clearing strategy to mitigate impacts on fauna. The clearing protocol should generally be in accordance with *Guide 1: Pre-clearing process, Guide 4: Clearing of vegetation and removal of bushrock* and *Guide 9: Fauna handling* within *Transport for NSW Biodiversity Management Guidelines* (2024). At minimum, the clearing protocol should ensure the following:

a. A pre-clearing survey is undertaken to identify fauna and fauna habitat potentially impacted. These must be identified on a plan and physically marked on site prior to clearing.
b. Clearing during key breeding periods of species likely to inhabit the site is avoided
c. Best practice clearing methods are used to minimise impacts on fauna. This may include staged clearing and soft fall techniques.
d. A qualified ecologist or licensed handler supervises removal of habitat features and inspects felled/cleared habitat immediately for fauna.
e. Captured fauna not requiring care are immediately released at a pre-identified release site. The release site should be identified for long-term conservation (e.g., Council bushland or C2-zoned land).
f. Captured fauna requiring care are taken to a veterinary clinic by a project ecologist or wildlife carer
g. Cleared native vegetation is re-used on site including placement of hollow logs in retained natural areas, and use of mulch in revegetation area

Where squirrel gliders have been detected on site, the following additional clearing measures are required:

- A corridor of trees should be maintained between potential squirrel glider den trees to surrounding native vegetation (outside of the area to be cleared) for a period of three (3) weeks following the clearing of surrounding habitat.
- Felled hollow-bearing trees should be left in adjacent habitat until the following day. After this period, sectional dismantling with an ecologist present must be undertaken for all potential squirrel glider den trees.

Mitigating the loss of Tree Hollows

Compensatory hollows are required when the removal of a hollow bearing-tree occurs as a result of the development. Where compensatory hollows are required, the BMP must include the following information:

- Size, type and quantity of natural tree hollows to be removed
- Number and type of artificial hollows required
- Maps of existing natural hollows and planned artificial hollow installation locations
- Monitoring and reporting requirements

Location - Suitable areas for compensatory hollow installation should be broadly identified with more specific installation and placement requirements that allows for flexibility on the ground. Compensatory hollows should be installed as close as possible to the location of the removed hollow-bearing tree with an orientation that considers the target species' needs. Installing hollows on trees with existing hollows or in areas with existing high density of hollows should be avoided. Where no suitable trees exist within the subject site, hollows may be installed within adjacent bushland providing future access for monitoring and maintenance can be ensured. Where augmented hollows are proposed, a pre-installation survey should be undertaken by a suitably experienced ecologist and a suitably qualified arborist (AQF5).

Design - Design of replacement hollows must be appropriate for the fauna species likely to occur on site or mimic the hollow being removed. The table below outlines Council's preferred types of compensatory hollows and the corresponding replacement ratios. Method of attachment must be appropriate for each artificial hollow type and may need to consider location-specific factors. Attachment design must allow for tree growth.

Table 1 Preferred types of compensatory hollows and required replacement ratios when hollow-bearing trees are removed as part of development

PREFERENCE OF USE	ARTIFICIAL HOLLOW TYPE	REPLACEMENT RATIO FOR EACH REMOVED HOLLOW
1st	Hollow augmentation using hollow hog or similar[1]	1:1
2nd	Salvaged hollow from felled hollow bearing trees as a result of the development	1:1
3rd	Nest box (min. 19mm walled)	2:1

[1] Due to potential impacts on tree health, hollow augmentation should only be undertaken under the supervision of an AQF Level 5 arborist experienced in hollow creation. The arborist should provide guidance on measures to minimise any adverse effects on the tree.

Timing - unless otherwise agreed by Council, 70% of compensatory hollows must be installed prior to clearing. The remaining 30% must be installed during or immediately following clearing.

Monitoring and maintenance – compensatory hollows must be monitored annually for fauna use and maintenance requirements. Monitoring should continue for a minimum of five (5) years following installation unless otherwise agreed by Council. Compensatory hollows must be maintained for a minimum of five (5) years following installation unless otherwise agreed by Council. Maintenance includes repairing, repositioning, re-installing, and relocating damaged hollows, as well as removing pests including non-native bees.

Dewatering Aquatic Habitat

A Dewatering Plan must be detailed in the BMP where development results in the dewatering of aquatic habitat such as farm dams, ponds, and watercourses. The Plan should include measures to protect aquatic fauna and may require species-specific controls based on the species present or likely to occur on site. Relocation sites for turtles should consider potential for inadvertent vehicle strike of dispersing individuals.

Fauna Connectivity

The purpose of a Fauna Connectivity Plan is to ensure that connectivity gaps created by the development are mitigated with fauna crossings and/or bush restoration. A Fauna Connectivity Plan may be required as part of a BMP where:

- Development impacts the functionality of Council's biodiversity corridors
- Habitat connectivity for threatened fauna is severed by development
- There are opportunities to improve functional connectivity for threatened species

The plan should include the following minimum detail:

a. Identification of likely direct and indirect impacts to existing fauna connectivity including likely species impacted
b. Measures to reinstate and/or protect fauna connectivity (e.g., glider poles, fauna-friendly culverts, revegetation, fencing)
c. Detailed works schedule for connectivity structure installation, revegetation works (where replacement planting of suitable canopy species may enhance connectivity in the long term), and maintenance of vegetation for five (5) years following planting. Revegetation and weed management works may be included as part of a VMP.
d. Monitoring plan for minimum five (5) years to be undertaken by suitably qualified personnel to determine fauna usage

Connectivity structures installed to mitigate impacts on connectivity must be appropriately designed for the target fauna species. For instance, if development impacts connectivity for squirrel gliders, glider poles should be of sufficient height and design to accommodate the species' average glide distance.

Where connectivity is being severed by tree removal, connectivity structures are to be installed prior to the tree removal to ensure connectivity for resident fauna.

Ecological Buffers

Development adjoining environmentally significant features should provide for, and ensure the management of, an ecological buffer to minimise ongoing impacts of development on those features. The BMP must identify environmentally significant features on or directly adjacent to the development site and provide an ecological buffer of an appropriate width to effectively minimise ongoing impacts of development. Where required, management of the ecological buffer, such as fencing, revegetation and/or weed management, should be outlined in the BMP.

Examples of environmentally significant features include:

- Threatened ecological communities
- Wetlands
- Known den or nesting trees for hollow-dependent threatened fauna (e.g., squirrel glider, powerful owl)
- Flying-fox camps
- Biodiversity corridors identified within Council's Environmental Sustainability Strategy 2030
- Raptor nests
- Core koala habitat

The type of buffer and level of management required is dependent on the sensitivity of the feature and risk of impacts from ongoing development. Types of ecological buffers include:

Setback buffer – involves establishing a physical separation between ongoing development impacts and environmentally significant features. Setback buffers help to reduce impacts solely by distance separation, rather than by any physical means such as vegetation planting. Appropriate examples of setback buffers include perimeter roads that prevent residential dwellings from backing onto riparian areas, or the exclusion of residential development near flying-fox colonies.

Vegetated buffer – refers to the use of existing vegetation, landscaping, or revegetation to help reduce the impacts from development. They are mostly used to protect a sensitive feature by maintaining or enhancing habitat. Management of the buffer may fall under a VMP or landscape plan. Appropriate examples of a vegetated buffer include retention of native vegetation surrounding a squirrel glider den tree, revegetation along the boundary of a biodiversity corridor, or the use of native plantings in recreational areas adjacent to native bushland.

Appropriate buffer distances should be determined on a site-specific basis and must consider the likely impacts of ongoing development. Minimum buffer distances for the most commonly encountered environmentally significant features are provided in Table 2.

Table 2 Minimum recommended ecological buffers for environmentally significant features commonly encountered in the Maitland LGA

ENVIRONMENTALLY SIGNIFICANT FEATURE	MINIMUM RECOMMENDED BUFFER
Threatened ecological community	20m
Coastal wetlands	50m
Other wetlands	20m
Year round or intermittently occupied flying fox camp	100m (setback buffer)
Core koala habitat	20m
Squirrel glider den trees	30m

Minor incursions into an ecological buffer may be allowable to achieve practical outcomes. This must be accompanied by justification and assessment of the implications of the variation of the buffer distance on the environmentally significant feature.

Other statutory or recommended buffers, such as Vegetated Riparian Zones, may also apply. Any applicable minimum distances and management requirements for these buffers must be adhered to in accordance with relevant legislation and guidelines.

5. Squirrel Glider Assessment Considerations

The squirrel glider is listed as a threatened (vulnerable) species under the NSW *Biodiversity Conservation Act 2016*. This species is commonly found in Maitland's urban growth areas and is particularly vulnerable to the impacts of urban development, including habitat loss, degradation, and fragmentation. This section of the guidelines outlines special requirements for squirrel glider assessment and impact mitigation.

These guidelines are intended to supplement, rather than override, any statutory requirements or approved guidelines. All relevant legal obligations, including those outlined in the NSW *Biodiversity Conservation Act 2016* and other applicable regulations, must be adhered to. In cases where these guidelines may conflict with statutory requirements, the statutory requirements take precedence.

5.1. Targeted survey requirements

Targeted surveys for squirrel glider must be completed where suitable habitat is available on or adjacent to the study site, regardless of Plant Community Type. The flow chart in Figure 1 has been developed to make this determination and should be addressed within the Flora and Fauna Assessment or Biodiversity Development Assessment Report.

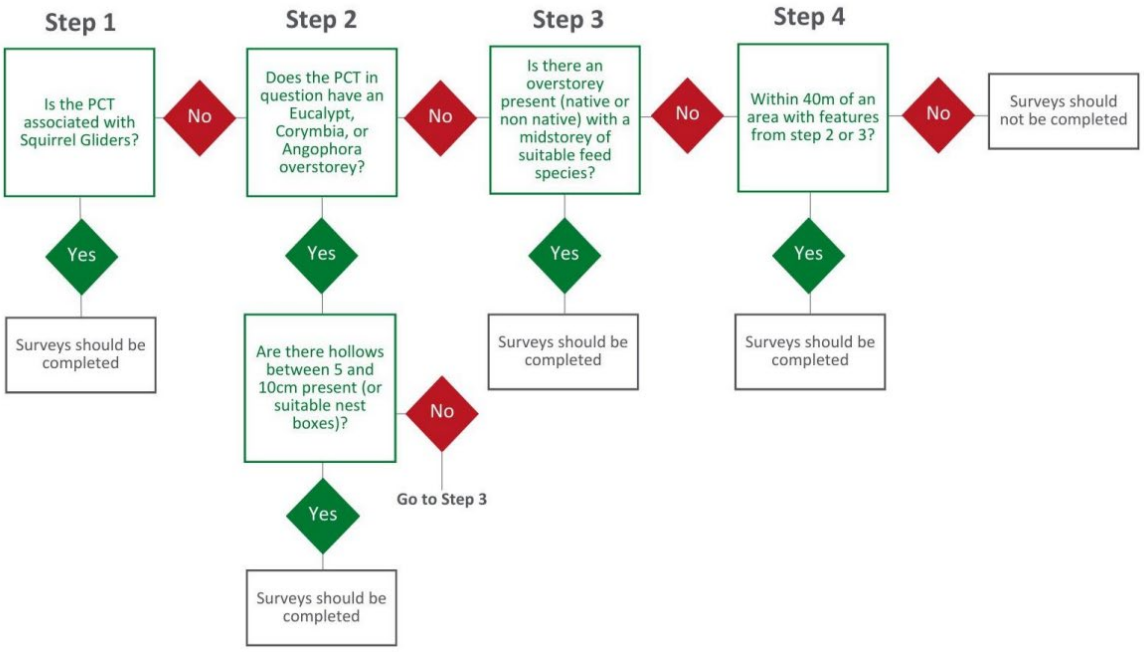

Figure 1: Flow chart used to determine survey requirements for Squirrel Gliders

When targeted surveys are required, the following minimum survey effort must be met:

- **Remote camera trapping** must be conducted for a minimum of four (4) weeks, with cameras checked and baits replaced every two (2) weeks. For areas of one hectare or less, a minimum of four (4) traps should be deployed. An additional two cameras should be installed for every additional hectare of habitat.
- **Active trapping** is recommended as a supplement to camera trapping, using either Elliot traps or pipe traps (see Figure 2). Six (6) arboreal traps should be installed per hectare of suitable vegetation, with each trap placed on a separate tree containing an appropriate hollow. The traps should remain in place for four (4) consecutive nights and be checked within one hour of dawn to allow for the prompt assessment and release of any captured gliders.

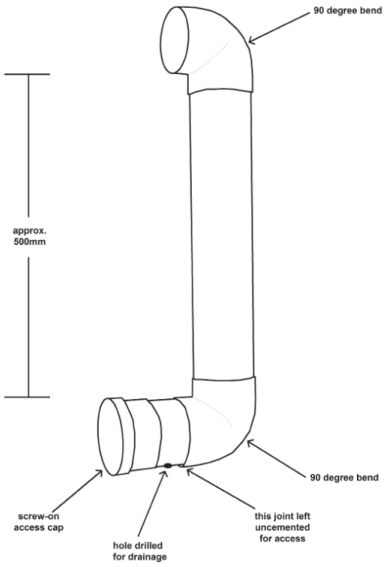

Figure 2: Pipe trap design (Winning and King, 2007)

Source: Winning G. King J. (2007) A new trap design for capturing squirrel gliders and sugar gliders. Australian Mammalogy 29, 245-249.

5.2. Determining a significant localised impact

Where squirrel gliders have been detected on site, a significant localised impact is assumed under the following circumstances:

- The extent of clearing will create a connectivity gap in native vegetation which is considered an unpassable barrier to squirrel glider, or
- Hollow-bearing trees within a patch of vegetation is reduced to fewer than four (4) per hectare, or
- An existing connectivity corridor is narrowed to less than 60 meters in width.

If a significant localised impact is determined, appropriate avoid and minimise measures must be implemented to reduce the impact to an acceptable level.

Determining a significant localised impact on squirrel gliders under these guidelines does not exempt the need to assess whether a 'significant impact' occurs under Part 5 of the NSW *Environmental Planning & Assessment Act 1979*, or any other applicable legislation or statutory frameworks.

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