Critical review of a Biodiversity Development Assessment Report

Biodiversity Offset Scheme (BOS) Local Government Webinar Series

Webinar 4

Angela Taylor
Senior Project Officer
Biodiversity Assessment Method Team

17 April 2025

Department of Climate Change, Energy, the Environment and Water

NSW GOVERNMENT

Acknowledgement of Country

The Department of Climate Change, Energy, the Environment and Water acknowledges that it stands on Aboriginal land.

We acknowledge the Traditional Custodians of the land and water, and we show our respect for Elders past, present and emerging.

We do this through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Artist and designer Nikita Ridgeway from Aboriginal design agency – Boss Lady Creative Designs, created the People and Community symbol.

Key Acronyms

Acronym	Term
Accredited Assessor	A person accredited to apply the Biodiversity Assessment Method under the Biodiversity Conservation Act 2016
AOBV	Area of Outstanding Biodiversity Value
BAM	Biodiversity Assessment Method
BAM-C	BAM Calculator
BOAMS	Biodiversity Offsets and Agreement Management System
BC Act	Biodiversity Conservation Act 2016
BC Regulation	Biodiversity Conservation Regulation 2017
BDAR	Biodiversity Development Assessment Report
BV Map	Biodiversity Values Map
DA	Development application
EP&A Act	Environmental Planning and Assessment Act 1978
EPBC Act	Environment Protection Biodiversity Conservation Act 1999

Acronym	Term
IBRA	Interim Biogeographic Regionalisation for Australia
IHM	Important Habitat Map
PCT	Plant Community Type
SAII	Serious and Irreversible Impacts
SEED Portal	Sharing and Enabling Environmental Data Portal
SPRAT	Species Profile and Threats Database (Commonwealth)
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened Ecological Community
The scheme (BOS)	Biodiversity Offsets Scheme
ToS	Test of Significance
Veg-C	BioNet Vegetation Classification
VI	Vegetation Integrity

Overview

- Key Concepts of the BOS BAM
- BDAR Review Resources
- Key checks:
  - When a BDAR is submitted
  - Stage 1- Assessing Biodiversity Values
  - Stage 2 – Impact Assessment
- Preparing conditions of consent
- Confirming that a credit obligation has been meet.

Image: John Lemon/DCCEEW

Key Concepts BOS and BAM - Part 4 Local Development

Planning System Environmental Planning and Assessment Act 1979

Biodiversity Offset Scheme Biodiversity Conservation Act 2016

BOS entry

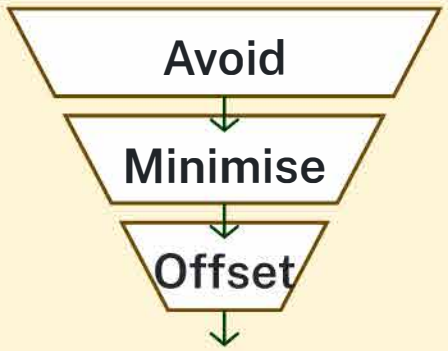
Likely to significantly affect threatened species (Section 7.2 of the BC Act)

Assessment

Accredited Assessor applies BAM

Section 6.12 BC Act and clause 6.8 BC Reg and the BAM set out information to be included in the BDAR.

BDAR impact assessment



No net loss of biodiversity

Planning approval and SAII decision

With Conditions to:

- Avoid
- Minimise
- Offset

Or, refused

Proponent has obligations

1. Purchase and retire credits **and / or**
2. Transfer obligations to BCF **and / or**
3. Fund Conservation actions (special circumstances)

BDAR review resources

Key resources

- Guidance for Local government on undertaking a critical review of a Biodiversity Development Assessment Report
- Biodiversity Development Assessment Report Template
- Guidance to assist a decision maker to determine a serious and irreversible impact

Other resources

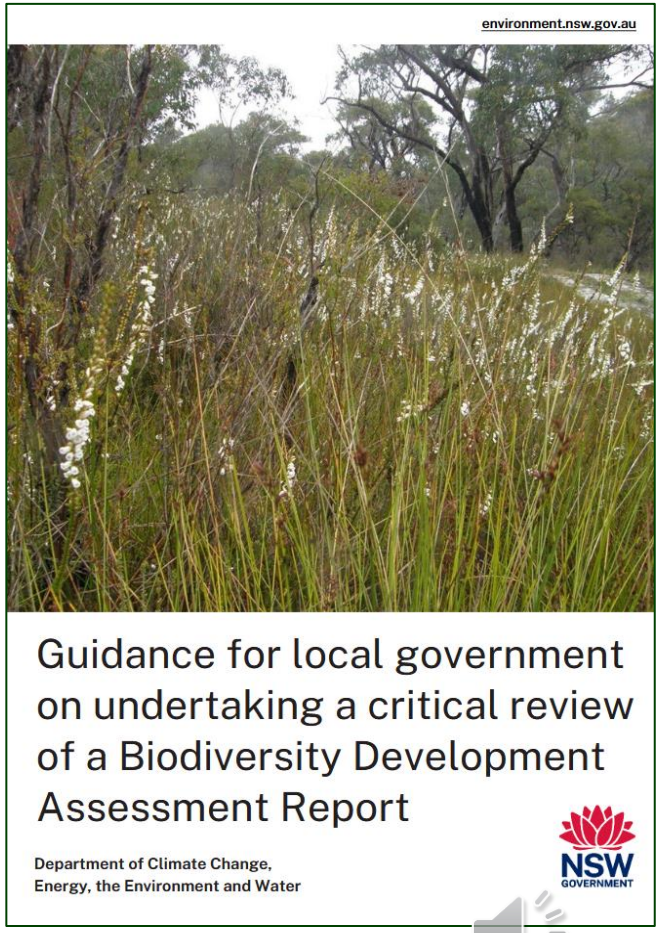
- BAM 2020 and associated Operational Manuals
- Threatened species survey guides
- NSW Biodiversity Offset Scheme Local Government Resource Manual
- Ancillary rules: Biodiversity conservation actions

Reviewing BAM-C Cases (BOAMS)

- BOAMS and the BAM-C User Guide

Checking biodiversity data

- NSW BioNet and the SEED Portal



Evidenced based justification

When reviewing a BDAR check that it contains evidence-based justifications to support decisions that have been made by the accredited assessor.

Examples include:

- Peer reviewed published literature
- Field survey methods and results
- Reference to VI scores
- Photos
- Maps
- Quantitative and qualitative analysis of data
- Reference to BioNet information incl. the TBDC & Veg-C

Image: John Spencer/DCCEEW

Note: If inadequate justification is provided request further information.

Preliminary BDAR review checklist

- ◯ Was the report prepared by an accredited assessor?
- ◯ Is the finalised biodiversity credit report from the BAM Calculator (BAM-C) included and finalised within 14 days of the BDAR being submitted?
- ◯ Has the BDAR been finalised and certified as BAM compliant within 14 days of the submission date (s6.15 BC Act?)
- ◯ Does the development application seek a reduced credit requirement?
- ◯ Does the development overlap with Category 1-exempt land (within the meaning of the LLS Act)?
- ◯ Has a streamlined BAM assessment been applied? If so, does the proposal qualify for a streamlined assessment?
- ◯ Does the application include all required digital shape files for maps?
- ◯ Is the proposal considered a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and require approval from the Commonwealth Government?

Note: Development applications accompanied by a BDAR are 'threatened species development' and must be exhibited for a minimum of 28 days (see cl 8A of Schedule 1 of the EP&A Act).

For further information Refer to Pages 3-4 of the Guidance for local government on undertaking a critical review of a Biodiversity development Assessment Report for further information.

Project description and subject land

Table 24 Minimum information requirements for the Biodiversity Development Assessment Report and the Biodiversity Certification Assessment Report

Stage 1: Biodiversity Assessment

Report Section	BAM reference	Information	Maps & Tables (in document)	Data (to be supplied)
Preliminary BDAR review	Chapters 2 & 3	Introduction to the biodiversity assessment including: • Brief description of the proposal • Identification of subject land boundary, including: • Operational footprint (if BDAR) • Construction footprint indicating clearing associated with temporary/ancillary construction facilities and infrastructure (if BDAR) • Land proposed for biodiversity certification (if (BCAR) • General description of the subject land • Sources of information used in the assessment, including reports and spatial data	Map of the subject land boundary showing the final proposal footprint, including the construction footprint for any clearing associated with temporary/ancillary construction facilities and infrastructure (if BDAR).	N/A

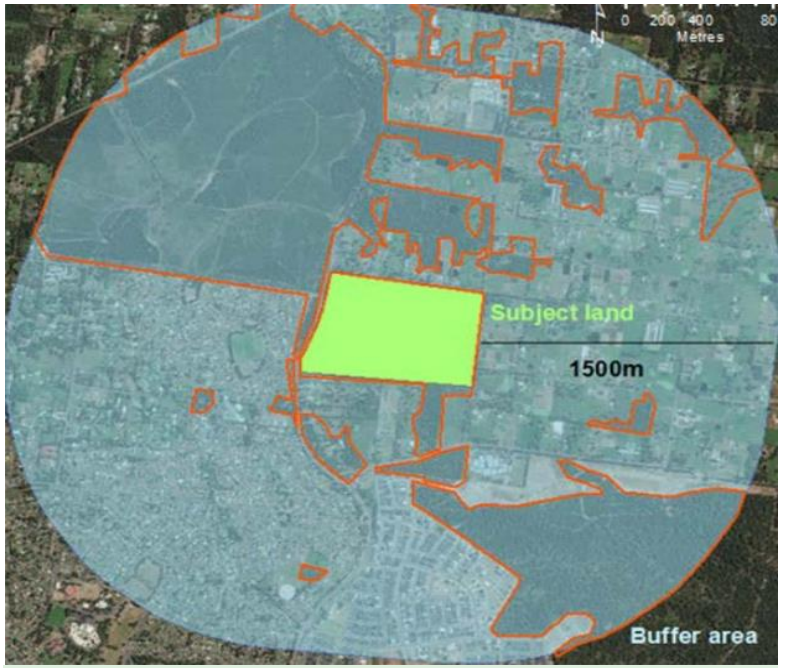
Establishing site context

BAM Chapter 3 requires the establishment of site context and assessment of landscape features.

Check:

- The site and location maps meet requirements of BAM ss 3.1.1 and 3.1.2.
- The correct IBRA bioregion and subregion are identified
- Landscape features listed in BAM ss 3.1.3 are identified and mapped.
- The percentage native vegetation estimate within the assessment area is reasonable.

Checklist for 'Establishing the site context–landscape features and native vegetation' cover pages 6-7 of Guidance for local government on undertaking a critical review of a Biodiversity Development Assessment Report.



Documentation: Check details of field survey methods and any assumptions applied are justified and documented in the BDAR.

Assessing native vegetation, threatened ecological communities and vegetation integrity

BAM Chapter 4 requires an assessment of native vegetation, plant community types threatened ecological communities and vegetation integrity.

Check the BDAR includes:

- Maps identifying the extent of native vegetation, PCTs and TECs on the subject land.
- A map identifying vegetation zones and details of their patch size
- An assessment of vegetation integrity.

Image: John Spencer/DCCEEW

Checklist for assessing native vegetation, PCTs, TECs and VI on pages 8-10 of Guidance for local government on undertaking a critical review of a Biodiversity Development Assessment Report.

Plant Community Type identification in BDARs

PCT identification in BDARs is commonly debated and not always clear cut. Check the BDAR documents and justifies PCT selection.

Check PCT identification is supported by evidence-based justification using reference to:

- Plot survey data.
- Process for identifying and refining PCTs.
- Quantitative and qualitative analysis of survey data.
- An interpretation of results from diagnostic PCT identification tools, such as Plot to PCT.
- Abiotic and biotic factors that contribute to PCT justification.
- Alignment of plot data with PCTs in BioNet.

Image: John Spencer/DCCEEW

Note

Failure to justify PCT selection with the support of quantitative and qualitative data in a BDAR is a failure to comply with the requirements of the BAM

Threatened Ecological Community identification

A BDAR must include TECs identified on the subject land.

TECs are identified in accordance with:

- NSW Threatened Species Scientific Committee Final Determination BC Act (NSW).
- Commonwealth Species Profile and Threats (SPRAT) Database Profile EPBC Act
- BDAR should include a comparison of the PCT description and other site attributes to the Final Determination and relevant SPRAT Profile.

Image: Peter Ridgeway/DCCEEW

Note:

Failure to identify a TEC could reduce the credit obligation for a development and result in inappropriate offset.

Considerations for PCT and TEC Identification

Get to know your local biodiversity to assist BDAR Review.

- Some PCTs and TECs are naturally treeless or occur as treeless ‘derived native grasslands’ and are often missed in assessments. Ensure you have enough information to determine the extent of native vegetation on the subject land.

Some PCTs and TECs are difficult to distinguish. Ensure:

- Adequate evidence and justification is provided for PCT and TEC identification as well as areas identified as exotic vegetation.
- Plot data (floristics and associated cover) support conclusions.

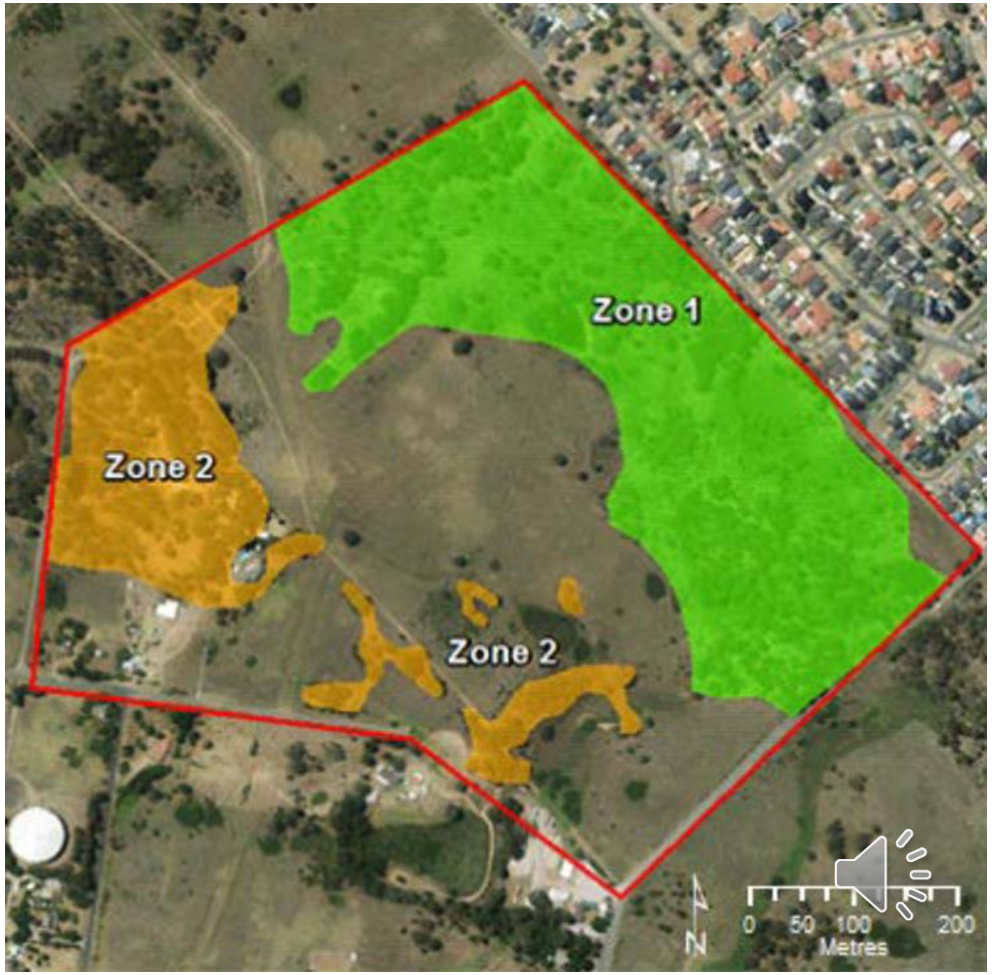
Image: Jackie Miles/DCCEEW

Mapping vegetation zones and assessing patch size

A vegetation zone is an area of the same PCT with the same broad condition state.

Check:

- An accurate description of each vegetation zone has been provided.
- The VI Scores for different vegetation zones reflect the same broad condition state.
- The patch size of each vegetation zone looks correct. Patch size class is used as a filter to predict threatened species likely to occur in or use habitat on subject land.



Vegetation integrity (VI) and plot data

Vegetation integrity is a metric-based assessment used to measure the condition of native vegetation against a benchmark, based on survey data collected by the assessor.

Check that:

- The minimum number of plots has been undertaken in each vegetation zone (refer to Table 3 of the BAM).
- Plot placement is representative with plots randomly distributed (methodology to achieve this should be specified in the BDAR).
- Plot field data, plot location and photos are provided.
- A table of current and future VI scores for each vegetation zone is provided.
- An offset has been determined for all impacts to native vegetation with a VI above the thresholds listed in the BAM.

Image: John Spencer/DCCEEW

Note:

Failure to complete the required number plots and satisfy requirements for representativeness is a failure to comply with the BAM.

For further information refer to pages 9-10 of Guidance for local government on undertaking a critical review of a Biodiversity Development Assessment Report and Sections 4.3 and 4.4 of the BAM.

Assessing habitat suitability

BAM Chapter 5 is used to assess habitat suitability for threatened species

Species are assessed as either ecosystem credit species, species credit species or dual credit species.

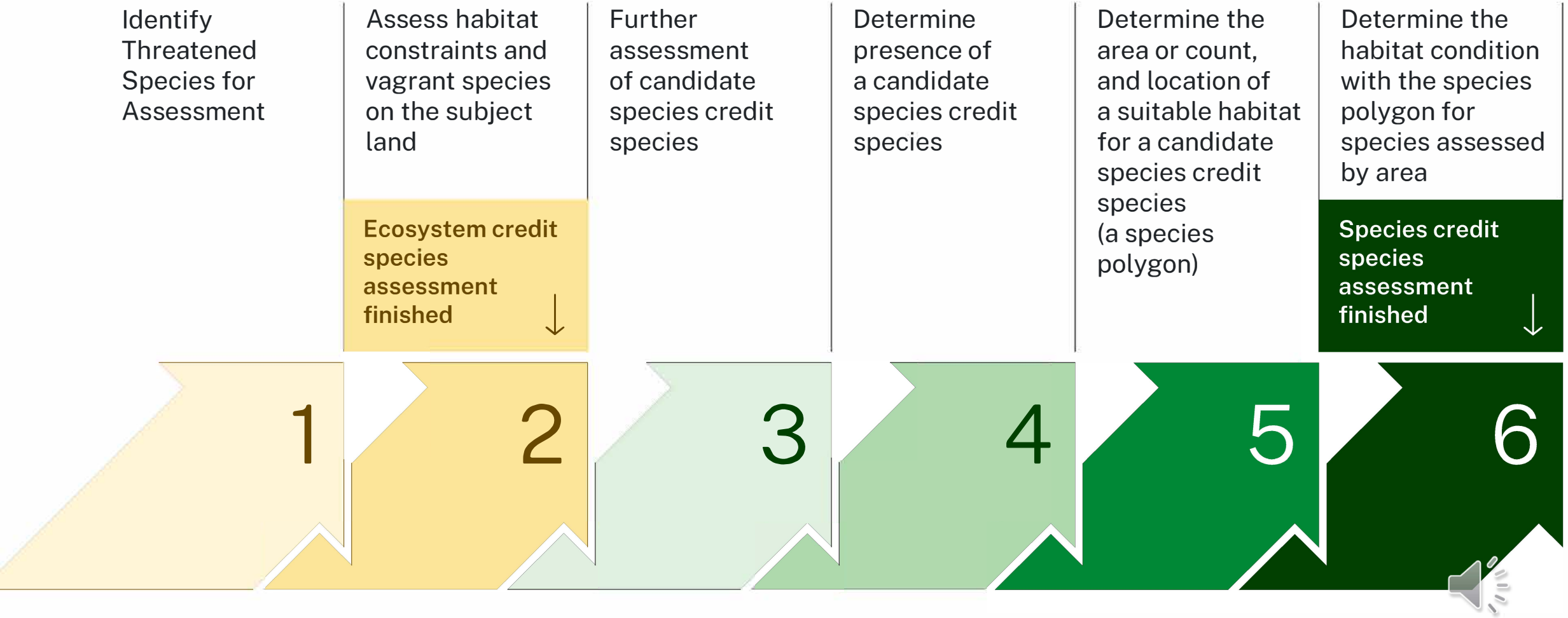
BDAR must include:

- An assessment of habitat suitability for threatened species.
- Information including any targeted species survey or expert reports used to exclude species from further assessment.
- Species polygons for candidate species credit species.
- Biodiversity Risk Weighting for candidate species credit species.

Image: Leah Pippos/DCCEEW

Checklist on pages 11-13 of Guidance for local government on undertaking a critical review of a Biodiversity Development Assessment Report.

Threatened species habitat suitability assessment



Steps 1-3 Habitat Suitability Assessment process

Check the BDAR includes:

- A list of ecosystem and candidate species predicted to occur.
- Evidenced based justification for exclusions:
  - based on geographic limitations, habitat constraints, vagrancy, and
  - for candidate species credit species only, exclusions due to:
    - absence of required microhabitats or
    - degradation of habitat constraints and microhabitats meaning the species is unlikely to use the subject land (or vegetation zones).

Image: Doug Beckers/DCCEEW

Step 4 Habitat Suitability Assessment

If survey has been undertaken check:

- Survey is compliant with the department's guidance or best practice, and
- Is conducted within correct survey months or that any variation to survey time is adequately justified.

If an expert report is used check:

- It has been prepared by a department approved expert, and
- Includes evidenced based justification for species presence; estimates on area and counts; and that conclusions are reasonable.

Image: Pavel German/DCCEEW

Step 5 and 6: Species polygon

Check:

- That a species polygon that meets the requirements of Box 2 of the BAM is provided for each retained species.
- The description of the species, any habitat constraints or microhabitats associated with the species on the subject land and details of any other information used to create the species polygon.
- That the correct unit of measure has been used for flora species.

Image: Lachlan Copeland/DCCEEW

Stage 2 – Impact Assessment

Stage 2 of the BAM:

- Provides guidance and outlines requirements to apply the avoid, minimise and offset hierarchy and the use of mitigation measures.
- Is used to:
  - assesses the direct impacts of the proposal on the subject land and any indirect and prescribed impacts on threatened ecological communities, species and their habitats and
  - determine the number and class of biodiversity credits that are required to offset the residual impacts on biodiversity values

Image: John Turnbill/DCCEEW

Avoid and Minimise

- Avoid and minimise is an internationally accepted standard for biodiversity offset schemes and it is a legislative requirement that a BDAR documents specific measures to avoid and minimise impacts.
- BAM Chapter 7 provides guidance and outlines requirements to apply the hierarchy of avoid, minimise and offset.
- A BDAR must document actions taken to avoid and minimise direct, indirect and prescribed impacts through:

Location of the proposal.

Design of the proposal.

Note

Knowledge of the sites biodiversity values should inform the location and design of the proposal.

Image: John Spencer/DCCEEW

Avoid and Minimise

Check that the BDAR contains:

- Sufficient measures to avoid and minimise impacts through proposal location and design.
- Demonstrable exploration of reasonable avoid and minimise measures on developable land.

Check that proposed measures to avoid and minimise:

- Are supported by measures that seek to maintain biodiversity values of avoided land.
- Have been identified over the life of the project.

Image: John Spencer/DCCEEW

Note: Failure to demonstrate reasonable avoid and minimise measures on developable land can compromise the approval of a proposed development.

Avoid and Minimise

BC Act Section 7.13 (6)

This section does not operate to limit the matters that a consent authority may take into consideration —

a) in relation to the impact of proposed development on biodiversity values, the measures that a consent authority may require to avoid or minimise those impacts or the power of a consent authority to refuse to grant consent because of those impacts.

A consent authority:

- May pose different requirements for avoidance and minimisation to those specified in a BDAR.
- Can refuse to grant consent due to inadequate avoid and minimise and inappropriate biodiversity impacts.

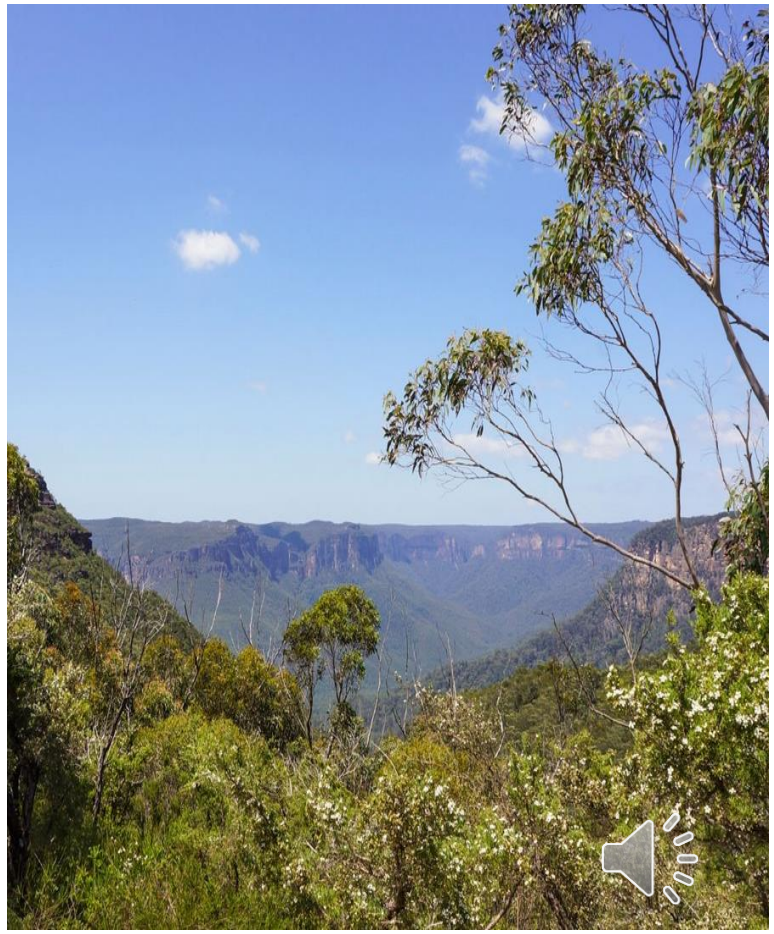


Image: Stephen Alton/DCCEEW

Assessing the impacts of the proposal on biodiversity values

A BDAR must include an assessment of all:

- Direct
- Indirect
- Prescribed Impacts

on biodiversity in accordance with BAM Chapter 8.

Note: Measures to mitigate and manage impacts that cannot be avoided or minimised must also be outlined in the BDAR.

Image: Robert Cleary/DCCEEW

Direct and indirect impacts

Direct impacts

Impacts on biodiversity values and threatened species habitat that relate to clearing native vegetation and impacts on biodiversity values prescribed by the BC Regulation.

Indirect impacts

Impacts that occur when the proposal affects native vegetation and threatened species habitat beyond the development footprint or within retained areas.

Includes impacts from activities related to the construction and operational phase of the proposal.

Direct and indirect impacts

Direct Impacts

Check that the BDAR:

- Identifies all residual direct impacts.
- Includes a table showing change in VI score for residual direct impacts in each vegetation zone.
- Identifies a credit obligation for all residual direct impacts (BAM-C Report).

Indirect Impacts

Check that the BDAR:

- Identifies all residual indirect impacts.
- Includes a description of the nature extent, duration and consequences of indirect impacts.
- Also check whether additional biodiversity credits are proposed to offset indirect impacts. If not consider whether there should be.

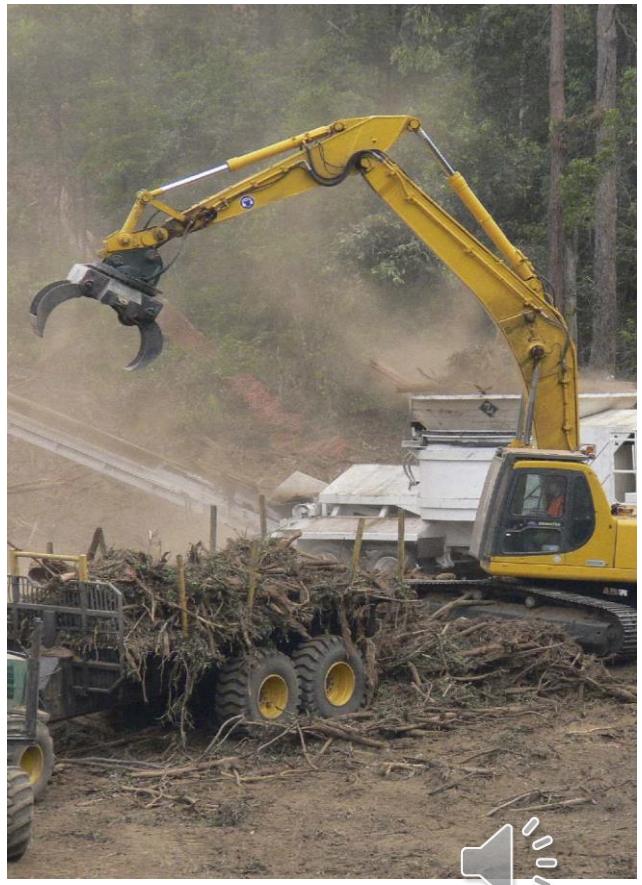


Image: John Turnbill/DCCEEW

Prescribed impacts

Prescribed impacts are listed in s6.1 BC Regulation

Include impacts of development on:

- Habitat of threatened entities such as karts, caves, cervices, cliffs and other geological features, rocks, human made structures and non-native vegetation.
- Connectivity of different areas of habitat for threatened species and movement of threatened species that maintains their life cycle.
- Water quality, water bodies and hydrological processes that sustain threatened entities.
- Wind turbine strikes on protected animals and vehicle strikes on threatened animal species or on animals that are part of a TEC.

May be difficult to predict, quantify and assess

Can be direct, indirect or uncertain impacts

Prescribed impacts

Check the BDAR:

- Lists and maps prescribed biodiversity impact features within the subject land and assessment area.
- Lists threatened entities likely to use them as habitat and describes the importance of the feature to the persistence of entities.
- Identifies and describes the nature, extent, frequency, duration and consequences of all prescribed impacts.
- Describes measures to avoid and minimise prescribed impacts and whether any additional mitigation or offset measures are proposed and how these measures were developed.
- Identifies prescribed impacts in species polygons where applicable.

In addition: For vehicle strike, check that potential impact locations and a list of threatened species and protected fauna that are part of a TEC at risk of vehicle strike are identified.

Using biodiversity credits to offset indirect and prescribed impacts

Section 7.13 (4) BC Act & Clause 6.1 (2) (b) BC Regulation

The BAM does not have a standard method for calculating an offset obligation for indirect and prescribed impacts as they can be difficult to quantify, highly variable and specific to the development and site context.

Council may request that additional biodiversity credits are retired, or that other compensatory measures are undertaken to compensate for indirect and prescribed impacts.

If additional credits are proposed to be retired to compensate for these impacts check that the BDAR clearly documents and justifies methods and calculations.

Further guidance provided in BAM Operational Manual Stage 2 ss4.5.10 and ss4.5.11

Mitigating and managing impacts

Check the BDAR:

- Includes a table of mitigation measures proposed to manage impacts, including techniques, timing, frequency and responsibility for implementing each measure.
- Evaluates and identifies measures for which there is risk of failure.
- Identifies a monitoring and evaluation strategy for each identified mitigation measure.

Further information available in BAM s8.4 of and BAM Operational Manual Stage 2 s4.4.

Check that mitigation measures:

Are practicable and reasonable.

Are proven mitigation measures or have triggers for managing unproven measures.

Are mapped on site plans to link with the proposed development.

Serious and Irreversible Impacts (SAIIs)

Additional assessment required

BDAR must address additional assessment criteria in the BAM for entities at risk of SAII (BAM s9.1).

Assessment of other entities

Council may require an assessor to undertake a SAII assessment for threatened entities that are not on the published SAII entity list if they are at risk of a SAII impact.

SAII decision

Council must determine if a SAII is likely with reference to SAII principles. Information in the BDAR and the '*Guidance to assist a decision-maker to determine a Serious and irreversible impact*' may also be used.

If council determines that a proposed development is likely to have a SAII, Council MUST REFUSE to grant development consent.

Image: Ken Stepnell/DCCEEW

SAII must be assessed even if:

- Presence has been assumed.
- A streamlined assessment module has been applied.
- The VI score of the TEC is below the threshold for an offset obligation.

SAII principles

An impact is a SAII if it is likely to contribute significantly to the risk of a threatened entity becoming extinct because of the principles set out in cl 6.7 (2) BC Regulation

Principle 1
Rate of Decline
It will cause a further decline of the species or ecological community known or suspected to be in a rapid rate of decline.

Principle 2
Population Size
It will further reduce the population size of the species or ecological community known or suspected to have a very small population size.

Principle 3
Geographic Distribution
It will impact on the habitat of the species or ecological community known or suspected to have very limited geographic distribution.

Principle 4
Not Replaceable
The impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.

Conditions of consent

Role of council as the consent authority to impose conditions of development consent:

- Conditioning a credit obligation.
- Conditioning avoid, minimise and mitigate measures.

After having regard to the environmental, social and economic impacts of the proposal, a consent authority can:

- Increase an offset obligation.
- Reduce a credit obligation with concurrence from the department.
- Must publish reasons for their decision (s 7.13 (4) BC Act).

Image: Alan Fairley/DCCEEW

Conditioning a credit obligation

Condition

Retirement of biodiversity credits to offset the residual impacts on biodiversity values (s7.13 (3) BC Act).

Offset Obligation

Must be expressed in terms of 'like-for-like'.

Compliance with the credit retirement condition

Must be complied with before any development that would impact on biodiversity is carried out (s7.13(5) BC Act).

Condition should require evidence of the retirement of credits to be provided to Councils written satisfaction, prior to issuing a construction or subdivision certificate or the commencement of any on ground works.

Note: The BOS Notification of Determination Form should be used to notify the Department of offset obligations associated with Part 4 Local Development.

Image: John Spencer/DCCEEW

Conditioning avoid, minimise and mitigate measures

Conditions of consent

Measures to avoid, minimise and mitigate or manage impacts must be reflected in the conditions of consent (s7.13 (3) BC Act).

Conditions may include a Biodiversity Management Plan and Vegetation Management Plan to prevent disturbance and degradation of avoided land.

Additional measures can be imposed

Council is not limited to the measures outlined in the BDAR and can also impose other conditions.

Compliance

The consent authority is responsible for ensuring compliance with these conditions as per normal procedures.

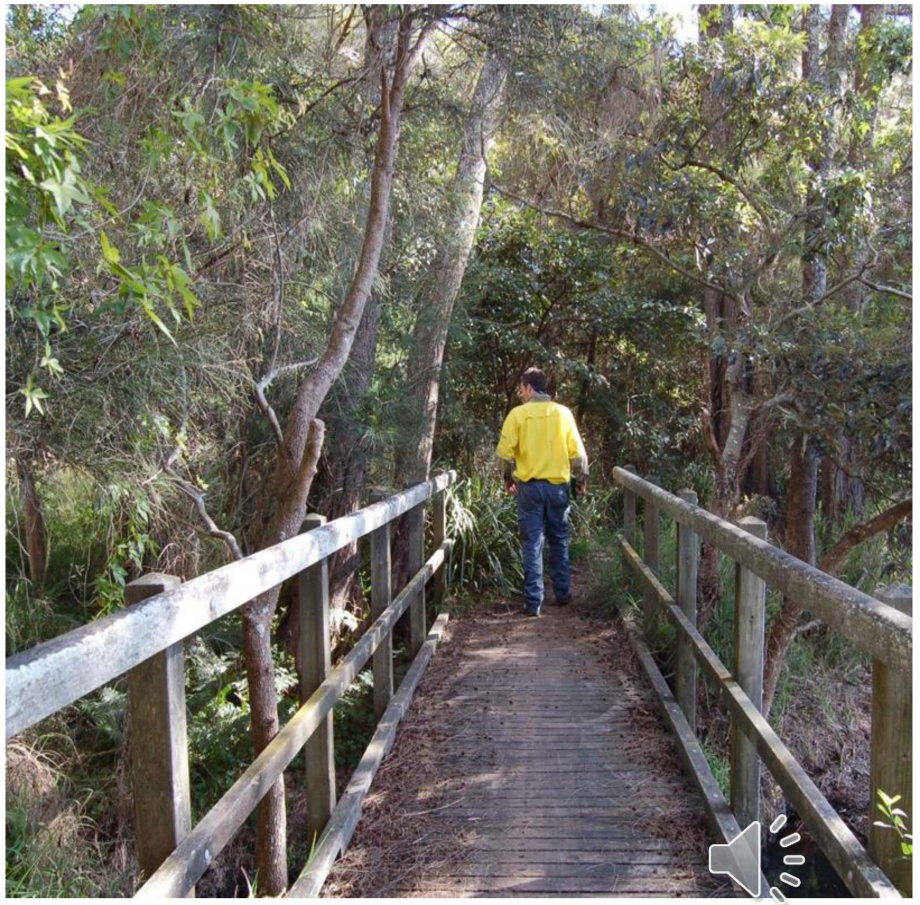


Image: Susan Davis/DCCEEW

Confirming satisfaction of conditioned offset obligations

Confirming satisfaction of conditioned offset obligation

Retirement of credits

Proponent provides proof of retirement issued by the department in the form of a credit retirement report.

Council confirms the credit(s) retired correspond to a like-for-like credit retirement of the appropriate number and location.

Payment to the Biodiversity Conservation Fund (BCF)

Proponent provides s6.33 Statement confirming payment into the BCF.

Statement indicates the number and class of credits that the payment corresponds to and any related development application reference.

Council confirms the payment transaction corresponds to the appropriate class and number of credits.

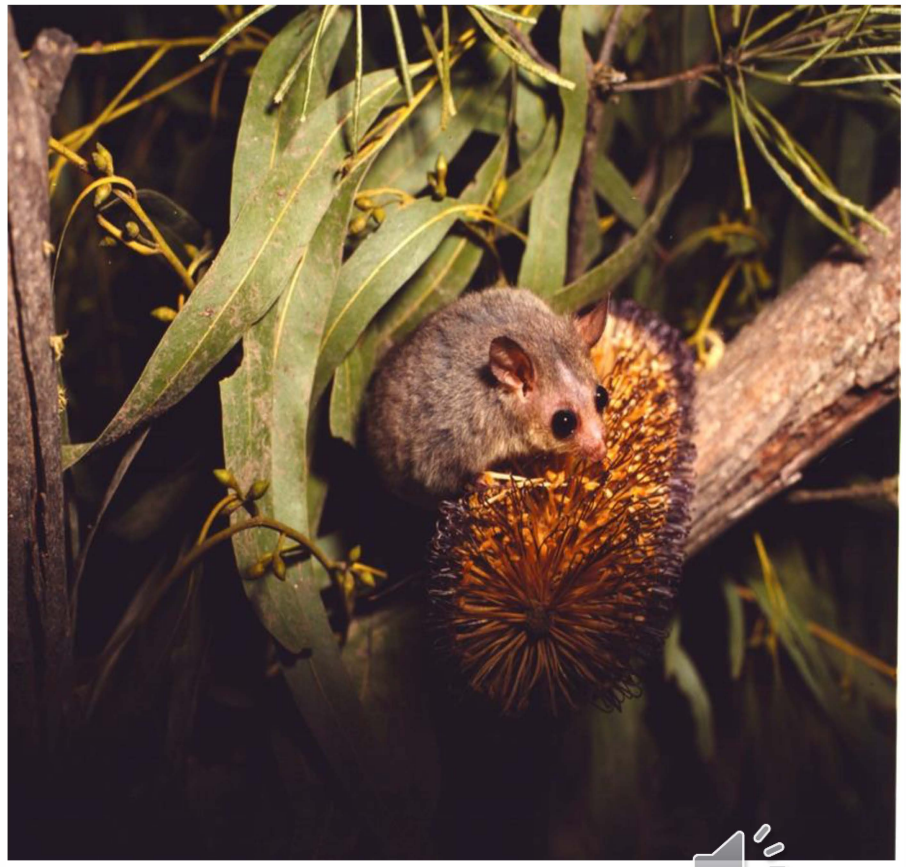


Image: Ken Stepnell/DCCEEW

Q&A and Feedback

If you have any questions relating to this webinar, please submit them to the BOS Help Desk at BOS.helpdesk@environment.nsw.gov.au.

To provide feedback on this webinar please scan the QR Code below.