Biodiversity Assessment Method Calculator

User guide

Department of Climate Change, Energy, the Environment and Water

NSW GOVERNMENT

Acknowledgement of Country

Department of Climate Change, Energy, the Environment and Water acknowledges the Traditional Custodians of the lands where we work and live.

We pay our respects to Elders past, present and emerging.

This resource may contain images or names of deceased persons in photographs or historical content.

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Shortened forms

Shortened form	Description
assessor	a person accredited to apply the Biodiversity Assessment Method under the *Biodiversity Conservation Act 2016*
BAM 2020	Biodiversity Assessment Method (published 2020)
BAM-C or BAM Calculator	Biodiversity Assessment Method Calculator
BAR	Biodiversity Assessment Report
BC Act	*Biodiversity Conservation Act 2016* (NSW)
BCF	Biodiversity Conservation Fund
BCT	Biodiversity Conservation Trust
BOAMS	Biodiversity Offsets and Agreement Management System
BOPC	Biodiversity Offsets Payment Calculator
BOS	Biodiversity Offsets Scheme
BOS Help Desk	Biodiversity Offsets Scheme Help Desk
BRW	biodiversity risk weighting(s)
DBH (or DBHOB)	diameter at breast height (over bark)
DP	deposited plan
EOI	expression of interest
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
HBT	hollow bearing tree(s)
HTW	high threat weed(s)
IBRA	Interim Biogeographic Regionalisation for Australia
LLS Act	*Local Land Services Act 2013* (NSW)
OTG	offset trading group

Shortened form	Description
PCT	plant community type
TBDC	Threatened Biodiversity Data Collection
TEC	threatened ecological community – listed as either a vulnerable, endangered or critically endangered ecological community under the BC Act and/or the EPBC Act
the department, DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
the scheme	NSW Biodiversity Offsets Scheme
this guide	Biodiversity Assessment Method Calculator User Guide
UoM	unit of measure
Veg-C	BioNet Vegetation Classification
VI	vegetation integrity

1. Introduction

1.1 Purpose of this guide

The NSW Biodiversity Offsets Scheme (the scheme) is the framework for offsetting unavoidable impacts on biodiversity from development with biodiversity gains achieved at biodiversity stewardship sites. The scheme is supported by the Biodiversity Assessment Method (BAM 2020).

The BAM 2020 establishes a transparent, consistent and scientifically based approach for assessing impacts to, or improvements in, biodiversity. It outlines how an accredited person (assessor) assesses impacts on biodiversity at development sites and stewardship sites.

The BAM 2020 is operationalised by the Biodiversity Assessment Method Calculator (BAM-C), which is an online interactive tool. Assessors (persons accredited to apply the BAM under the *Biodiversity Conservation Act 2016* (BC Act)) must use the BAM-C for the purpose of carrying out an assessment using the BAM 2020.

The *Biodiversity Assessment Method Calculator User Guide* (the guide) provides detailed step-by-step instructions and technical advice for assessors when using the BAM-C.

The Department of Climate Change, Energy, the Environment and Water (the department) will review and update the guide periodically to incorporate new information and reflect legislative or policy changes.

1.2 Biodiversity Assessment Method Calculator

The BAM-C uses the rules and calculations outlined in the BAM 2020 and allows the user to apply the BAM 2020 at a site and observe the results of the assessment. The BAM-C helps with preparation of standardised reports and allows assessors to enter field data and determine the number and class of biodiversity credits.

The vegetation integrity (VI) and habitat suitability assessments are used to calculate the number and class of biodiversity credits to offset impacts at development/clearing sites or to establish biodiversity stewardship agreements at stewardship sites.

The BAM-C uses biodiversity data from the NSW BioNet Threatened Biodiversity Data Collection (TBDC) and BioNet Vegetation Classification (Veg-C) to perform BAM 2020 calculations.

Assessors and consent authorities can access the BAM-C via the Biodiversity Offsets and Agreement Management System (BOAMS).

1.3 Scope and structure of the guide

The guide outlines step-by-step instructions for completing each phase of the BAM 2020 assessment within the BAM-C. It also provides tips and other useful information to support its application (blue boxes).

The guide should be used in association with the BAM 2020 operational manuals (Stages 1–3). See Appendix B below for links to these and other useful documents and webpages mentioned in this guide.

The guide does not contain detailed instructions for using BOAMS. Refer to the BOAMS user guides (for assessors or community users) for more information (see Appendix B). Where relevant, this guide will outline specific BOAMS prerequisites that will impact using the BAM-C.

Two versions of the BAM-C exist:

- a registered user version accessed via a BOAMS login, which allows assessors to save assessments and generate and download reports that display the results of assessments
- a public version with no login required, however, data cannot be saved or viewed as a downloadable report.

This guide provides information on the registered user version of the BAM-C, however, much of the information is also applicable to the public version.

Tip

- A public version of the BAM-C is available, but it is intended for demonstration purposes only and has limited functionality (for example, users cannot save data or print reports).

For ease of use, the guide has a chapter dedicated to each assessment type:

- **Chapter 4:** Development/clearing assessments – Part 4 Developments (General), Major Projects, Part 5 Activities, Biocertification, and Clearing (General)
- **Chapter 5:** Small area assessments – Part 4 Development (Small Area) and Part 5 Development (Small Area)
- **Chapter 6:** Scattered Trees
- **Chapter 7:** Stewardship (for offset sites).

The intention is to provide standalone information in each of these chapters to enable the user to follow the instructions specific to a particular assessment type.

The guide is aligned with the number ‘tab’ structure of the BAM-C and provides:

- the purpose of the tab
- a brief description of the steps needed to complete an assessment
- references to relevant sections of the BAM 2020 and other useful information.

2. Using Biodiversity Offsets and Agreement Management System to access and manage BAM-C cases

Assessors and decision-makers must access the BAM-C via their BOAMS registered user account.

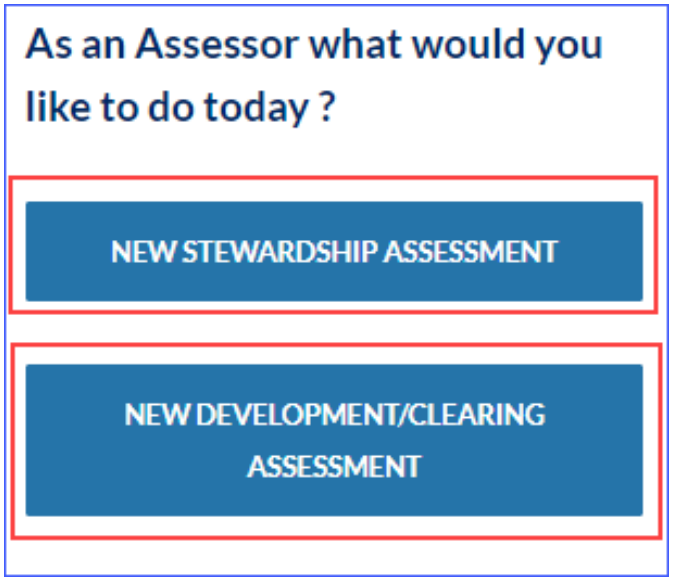
Specific BAM 2020 tasks can only be carried out by assessors. Access to BOAMS is provided after assessors have become accredited.

Further information about BOAMS for assessors is in the *BOAMS Guide for Accredited Assessors* (see Appendix B).

2.1 Creating a case number

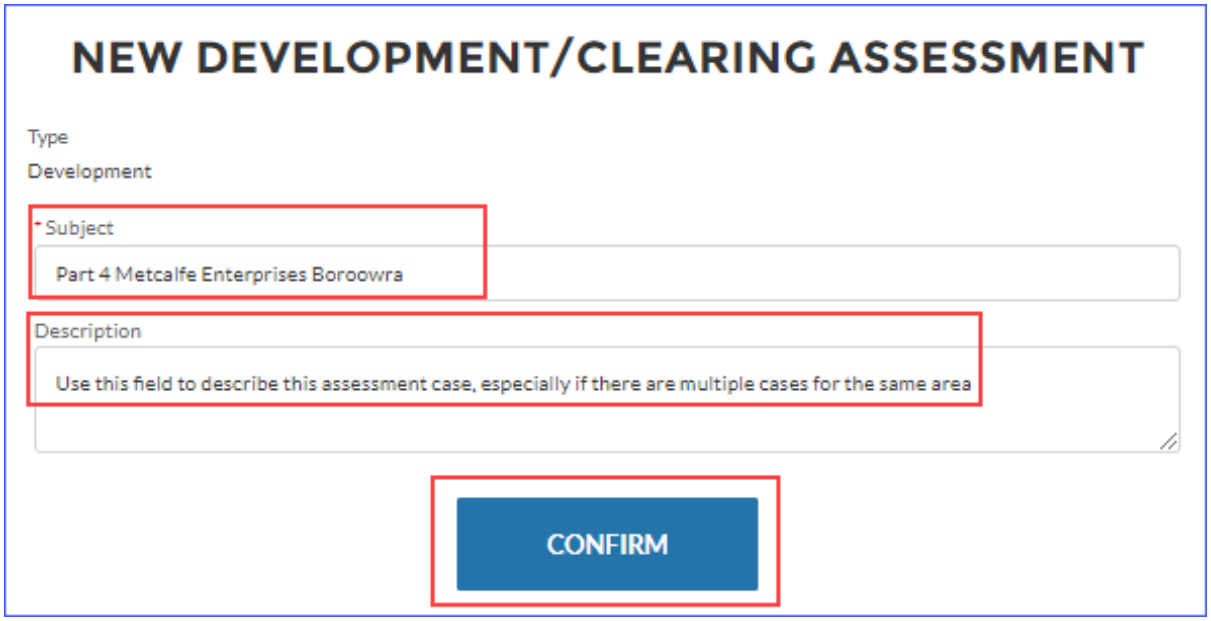
To launch the BAM-C, you must first create a parent case in BOAMS. From the BOAMS home page, follow the steps below.

1. Click 'New stewardship assessment' or 'New development/clearing assessment', as appropriate.

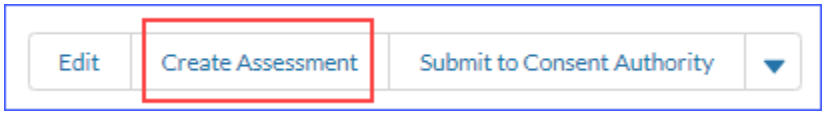


2. Add a subject and description and click 'Confirm'. This will create a parent case that will then open.

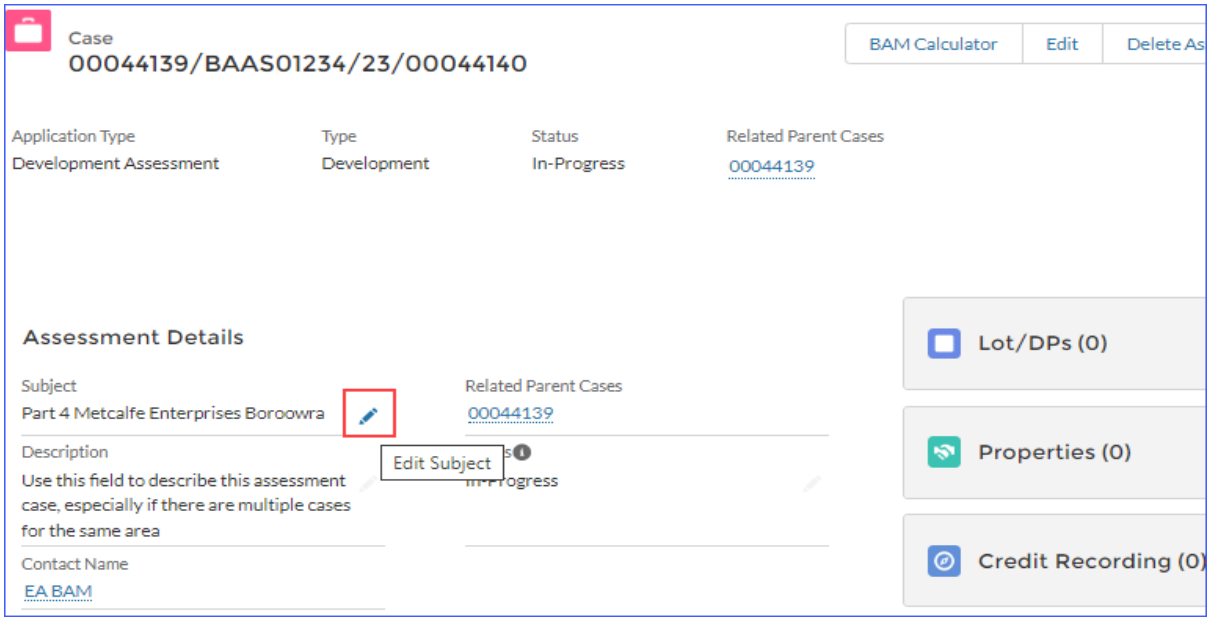
   Note: Choose a useful subject name and description so you can distinguish between multiple cases.

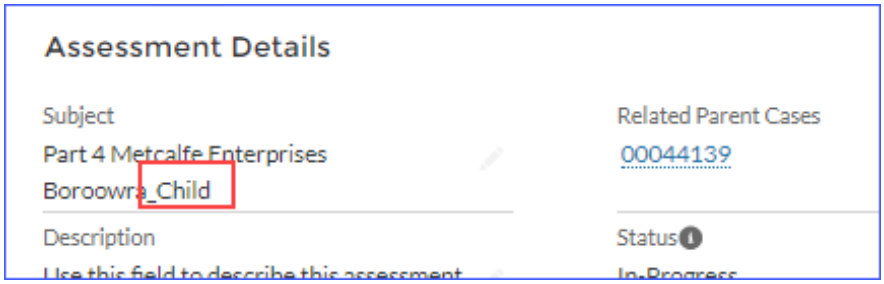


3. Click ‘Create Assessment’ to create a related case and access the BAM-C.

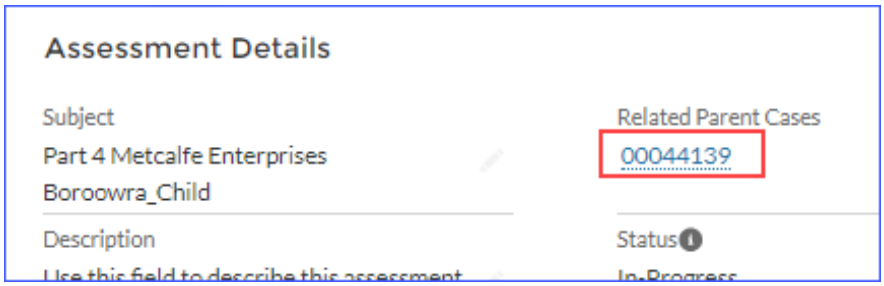


4. The related case will have identical ‘Subject’ and ‘Description’ information to the parent case. When multiple related cases (assessments) are created it is good practice to re-name the related cases to readily distinguish between parent and related cases, and also between related cases.

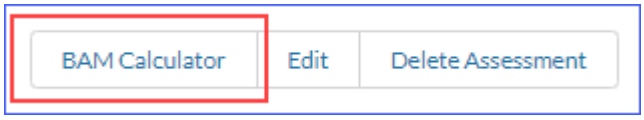


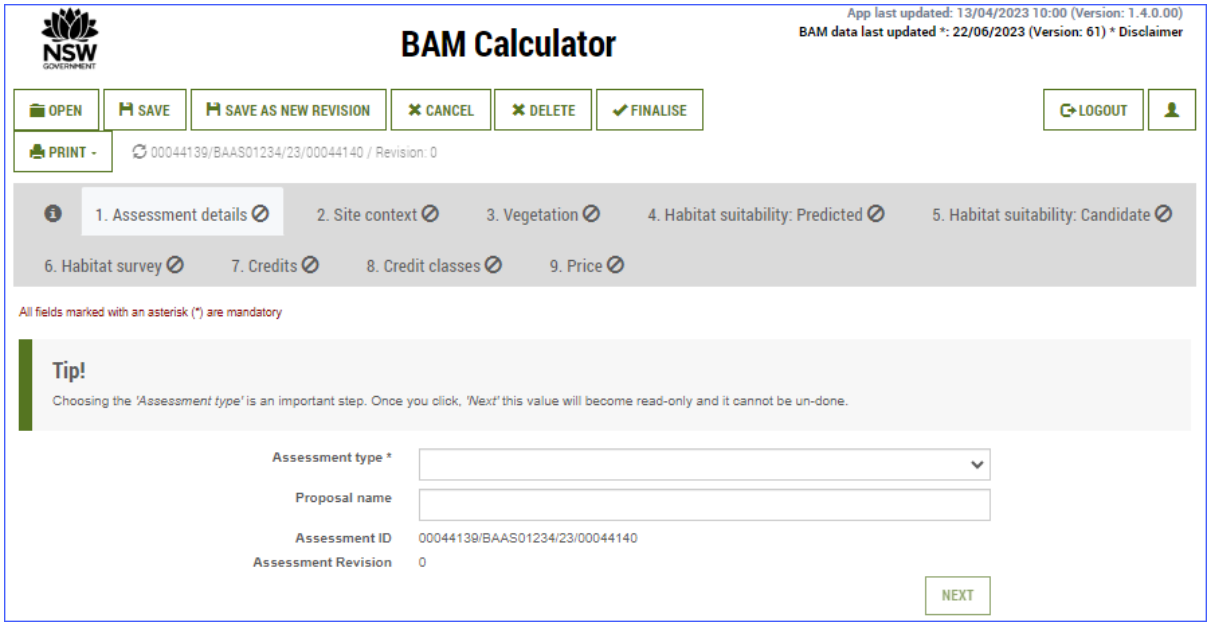


5. To navigate back to the parent case at any time, click on the link under 'Related Parent Cases'.



6. Open the BAM-C by clicking 'BAM Calculator'. Tab 1 in the BAM-C will open.



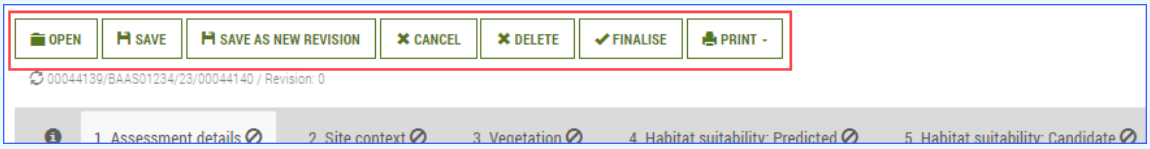


Tip

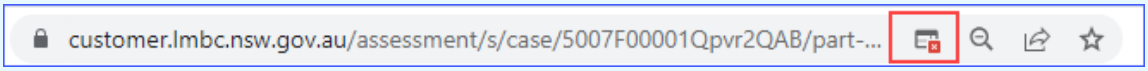
Issues with accessing or launching the BAM-C

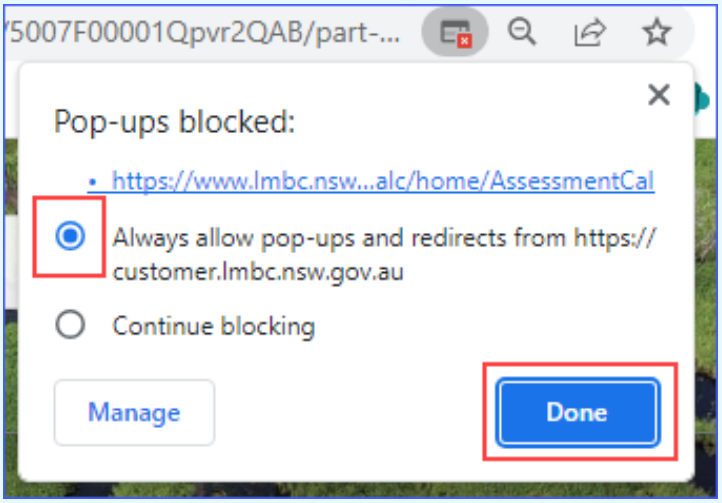
- The Google Chrome web browser is recommended for access to BOAMS and the BAM-C. The BAM-C will not load in the Safari web browser.
- The BOAMS case owner has full edit access to the BAM-C assessment, but other assessor case parties have limited access (see Section 2.2).

- If you cannot see the row of general functions buttons (see Chapter 3), you may be using the public version of the BAM-C, or your session has timed out. Switch to the registered user version accessed via BOAMS, or log back into BOAMS, as appropriate.



Ensure your web browser's pop-up blocker is disabled. The pop-up blocker is found in the settings option of most browsers. 'LMBC' must be allowed.





2.2 BAM-C user access

Registered users will have varying levels of access to the BAM-C, depending on their user type and purpose, as displayed in Table 1.

Table 1 BAM-C user access

User	Purpose	Access level	Obtaining access
Assessor	Complete BAM 2020 assessment for a clearing, development, biodiversity certification or stewardship proposal and generate associated reports to include in the Biodiversity Assessment Report (BAR)	Case owner – view and edit access to BAM-C cases created or with transferred ownership of case to assessor Case party – view-only access to BAM-C cases when listed as an assessor case party on the BOAMS parent case	Assessors will receive registered user access to the BAM-C via BOAMS once accreditation is approved

User	Purpose	Access level	Obtaining access
Community users	• Landholder who is a party to a development (case party) obligation • Create an expression of interest (EOI) credits listing to create and sell credits • Wish to list biodiversity credits wanted	View, edit and find information using the tiles on the BOAMS landing page View and manage existing cases in BOAMS Create certain applications and listings in BOAMS	Community users cannot access the BAM-C. To enter into a biodiversity stewardship agreement the community user will need to engage an assessor
Decision-maker/consent authority	Review BAM 2020 assessment, calculations, and associated reports for clearing, development, biodiversity certification or stewardship proposals	View-only access to BAM-C cases sent for review	Consent authority access to BOAMS cases and associated BAM-C assessments can be requested by contacting the BOS Help Desk (see Appendix B)

2.3 Updates to BAM-C functionality or data

The BAM-C is updated periodically to incorporate enhancements to functionality, bug fixes or changes to legal or policy positions relating to the BAM 2020 method. Datasets within the TBDC and Veg-C are also routinely updated.

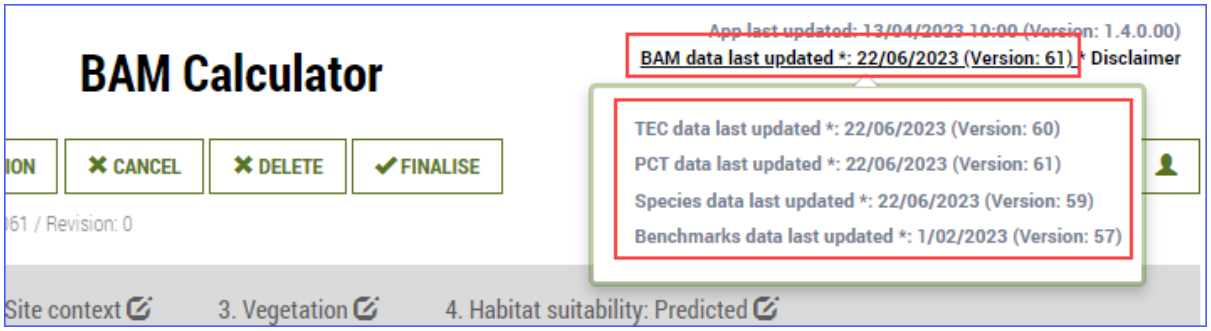
Updates to BAM-C functionality (how it operates) are rolled out periodically. Changes and any impacts to cases are communicated to BAM-C users via the BOS updates monthly newsletter.

The BAM-C displays the date the last modification to functionality was implemented and the application version number.

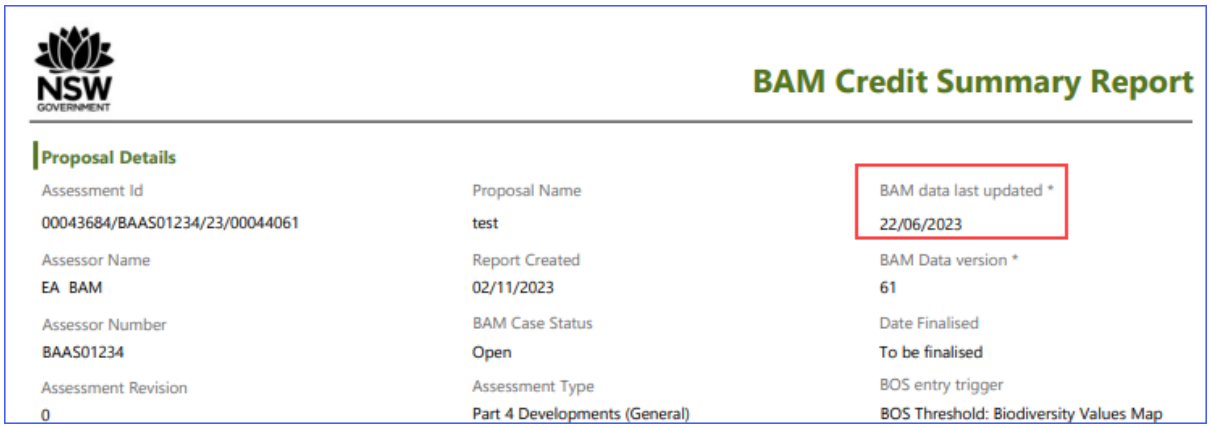
Updates to the BAM-C data, based on changes to TBDC or Veg-C data, occur semi-regularly. The data changes and any potential impacts to assessments are communicated to BAM-C users via the BOS updates monthly newsletter.

The BAM-C displays the date when the last change to data in the BAM-C occurred and the data version number.

Hover your cursor over ‘BAM data last updated’ to see the individual datasets used by the BAM-C, and when each was last updated. These dates may indicate a large data upload, or a single data change.



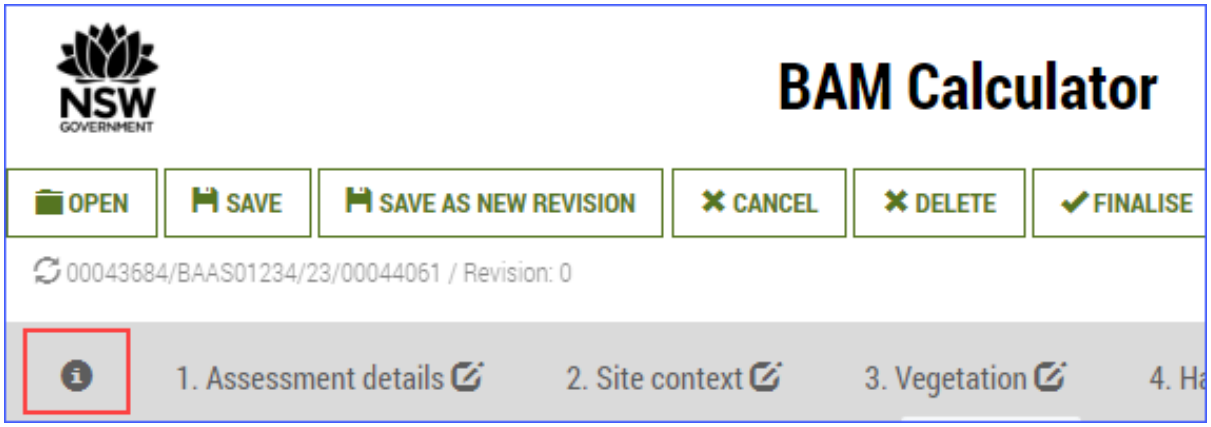
The date when the most recent change to data in the BAM-C occurred is also shown in reports printed from the BAM-C.



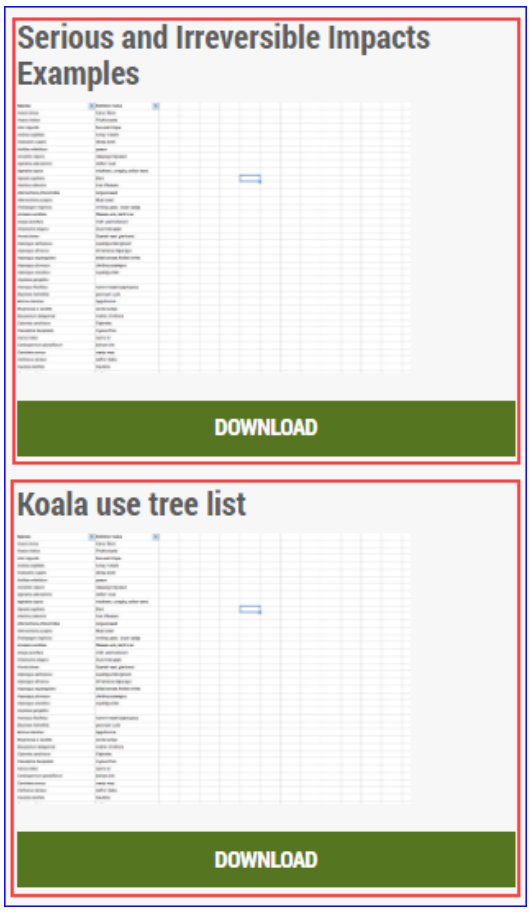
2.4 Download supporting documentation

The ℹ icon in the BAM-C, to the left of Tab 1, provides downloadable supporting information.

1. Click on the ℹ icon to see the available documents, including:
   - this guide
   - Version 1.1 Benchmarks – archived data
   - rates of increase/rates of decline tables – estimates of gain and decline for each attribute
   - species with specific survey requirements list
   - native species by growth form list – BioNet Power Query
   - high threat weeds list – BioNet Power Query
   - serious and irreversible impact (SAII) examples – how to assess SAII
   - koala use tree list.



2. Click ‘Download’ below the document you need. If the downloaded file does not open automatically, go to your downloads folder and open the file from there.

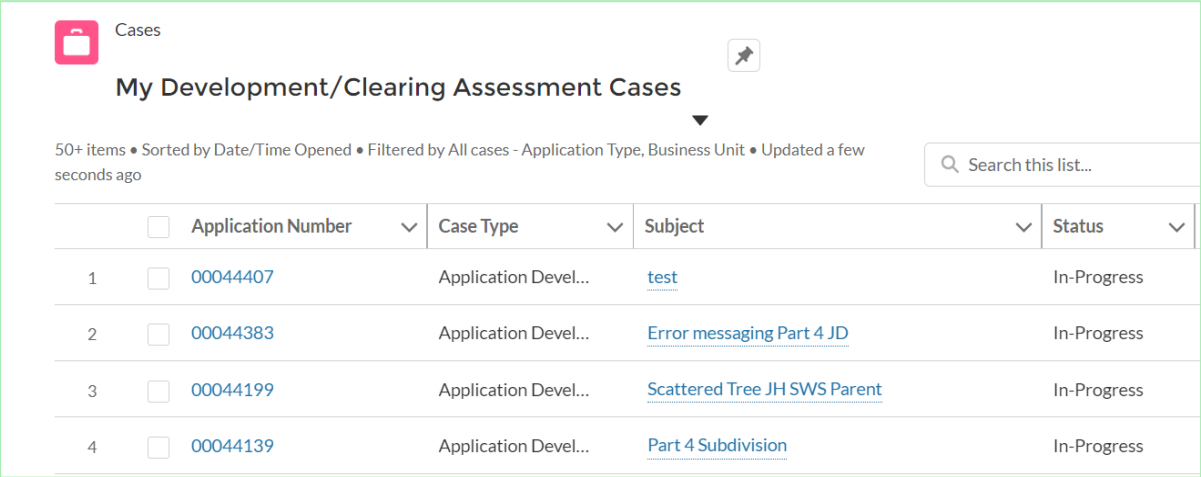


2.5 Delete cases

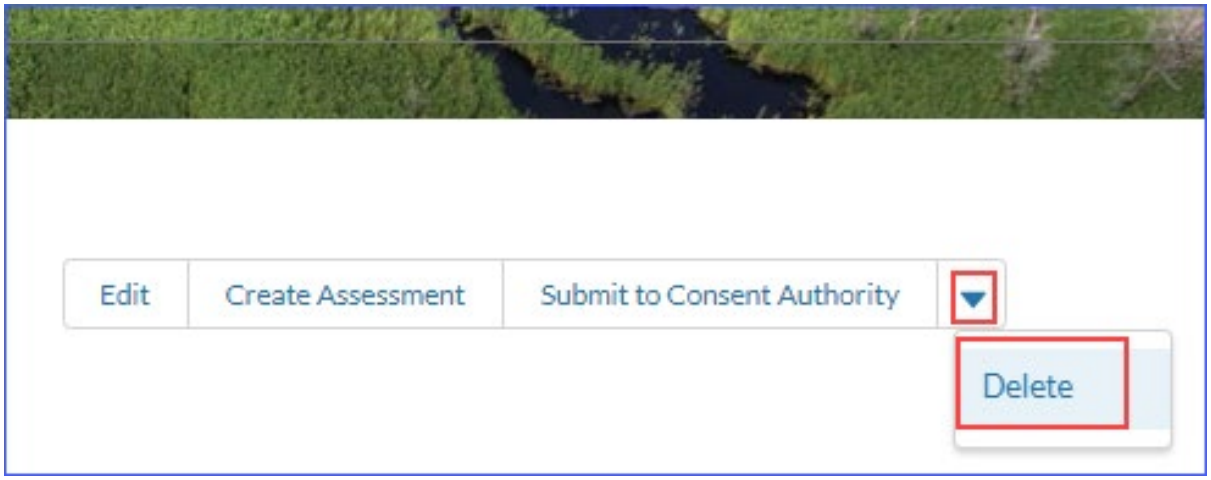
It is good practice to keep only the cases you have finalised, or those you are still working on. Cases that are no longer required should be deleted from BOAMS.

2.5.1 Deleting parent cases

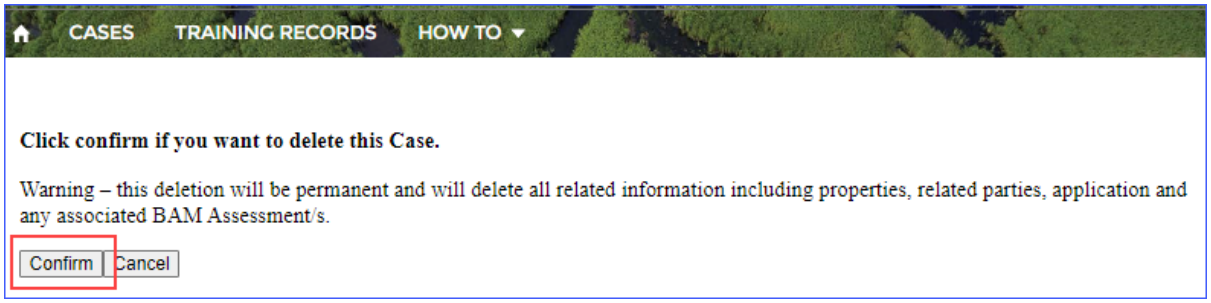
1. Click on the 'My Cases' tile on the BOAMS landing page and select the parent case you want to delete from the list.



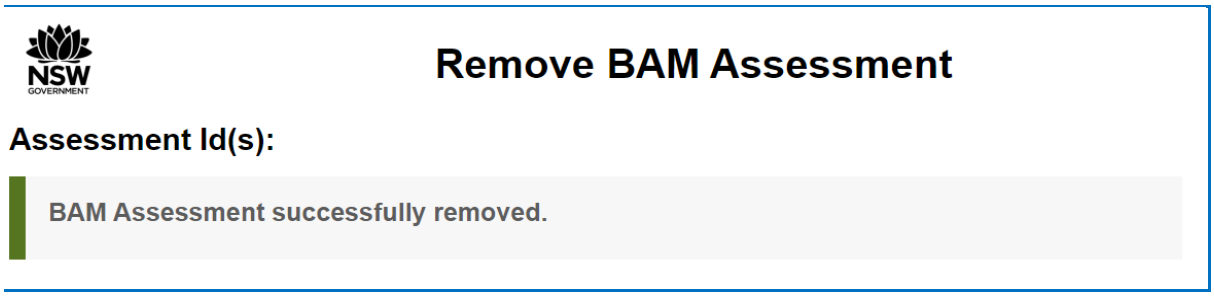
2. For development cases, select 'Delete' from the drop-down list beside the 'Submit to Consent Authority' button at the top right of the page. For stewardship cases, the drop-down is beside the 'Create Application' button.



3. A message will appear to confirm or cancel your request to delete the case.



4. Once deleted, a message will appear confirming the assessment has been removed.

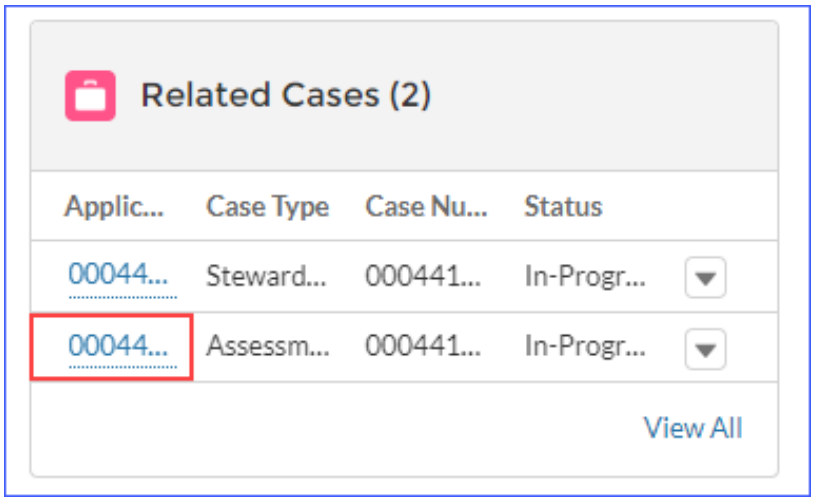


Tip

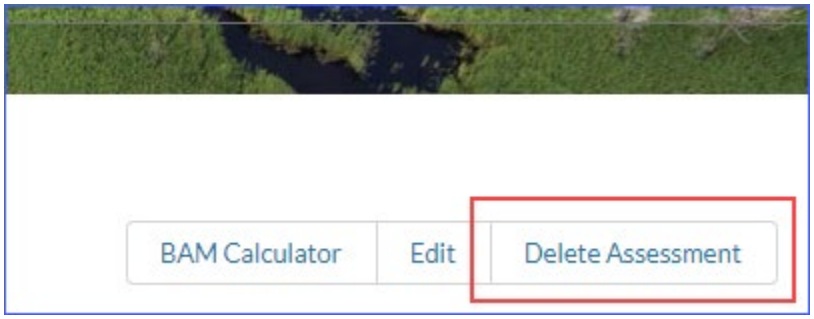
- Deleting a parent case will also delete all child cases associated with that parent case.

2.5.2 Deleting child cases

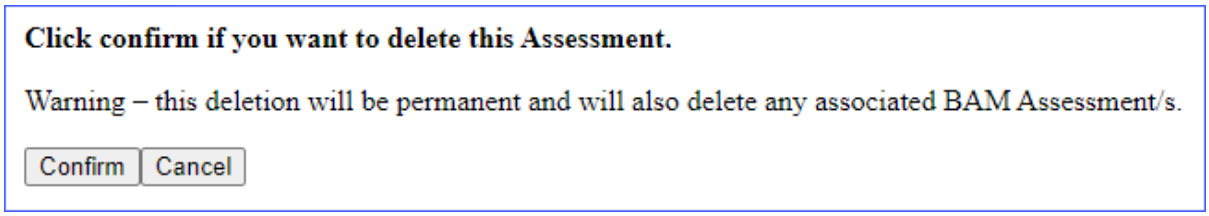
1. In BOAMS navigate to the child case to be deleted.



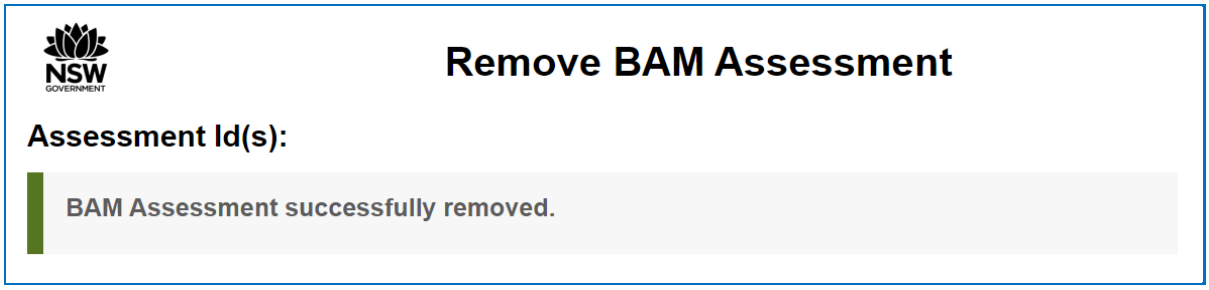
2. Click 'Delete Assessment' at the top right of the case page.



3. A message will display to confirm the deletion. Click ‘Confirm’, or to retain the case, click ‘Cancel’.



4. A message will appear confirming the assessment has been removed.

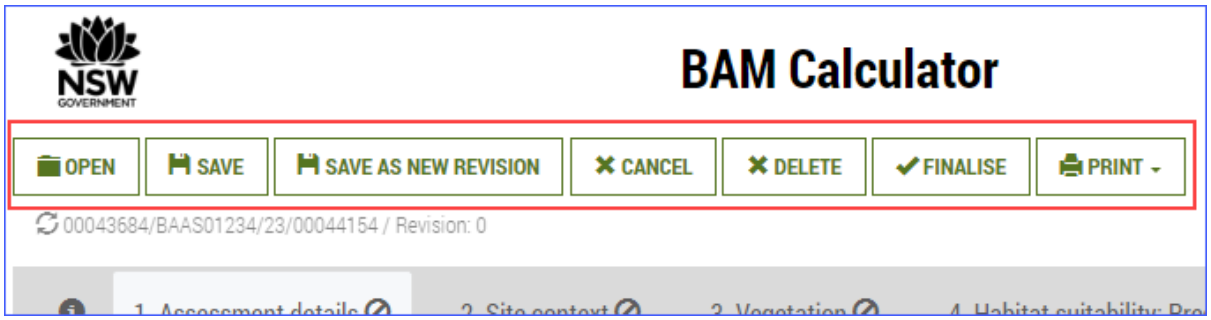


Tip

- Deleting a child case will also delete all BAM-C data and calculations related to that child case.

3. General functions

There are high-level functions, unrelated to the BAM-C data tabs, to help you manage assessments and create reports.



The use of these functions is detailed in Sections 3.1–3.9 below.

3.1 Open an existing assessment revision

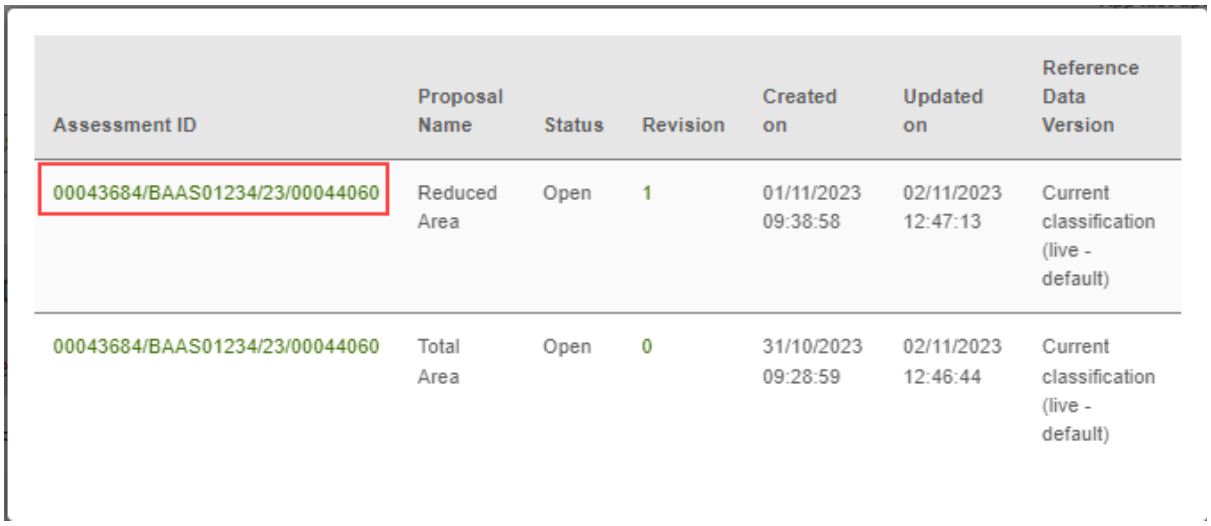
Multiple revisions of a case can be created to understand the impact of changes to an assessment, while maintaining an unchanged copy of the original assessment.

1. Click ‘Open’ in the row of general functions buttons.

2. The ‘Open assessment’ dialog box will open, which shows the list of assessment revisions saved for the assessment.

Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00040514/BAAS01234/23/00040531		Open	1	17/05/2023 10:43:59	17/05/2023 10:43:59	Current classification (live - default)
00040514/BAAS01234/23/00040531		Open	0	17/05/2023 09:40:56	17/05/2023 10:43:41	Current classification (live - default)

3. Click on the assessment ID link or revision number link to open the assessment you want to examine or revise.



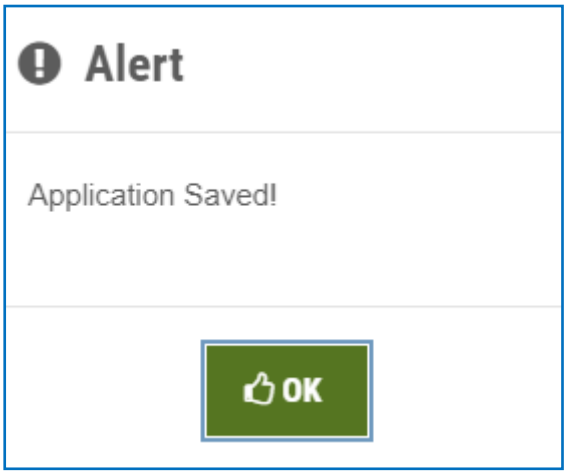
Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00043684/BAAS01234/23/00044060	Reduced Area	Open	1	01/11/2023 09:38:58	02/11/2023 12:47:13	Current classification (live - default)
00043684/BAAS01234/23/00044060	Total Area	Open	0	31/10/2023 09:28:59	02/11/2023 12:46:44	Current classification (live - default)

3.2 Save an assessment

Save the assessment you are working on regularly. Where there are multiple revisions in a case, only the open assessment is saved. Remember to save when switching to another revision or creating a new revision.

1. Click ‘Save’ in the row of general functions buttons. The current assessment revision will be saved with all entered data and completed calculations.

2. A pop-up will open to say the assessment has been saved. Click ‘OK’.



Tip

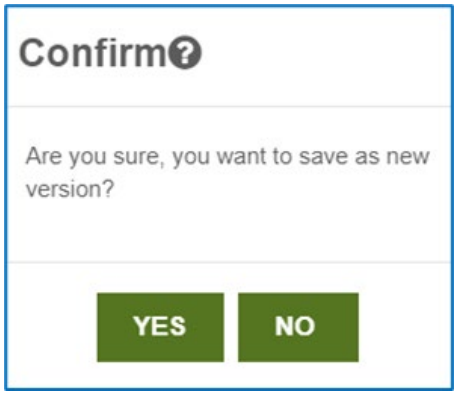
- Clicking the save button only saves edits to the current revision.

3.3 Save a new revision

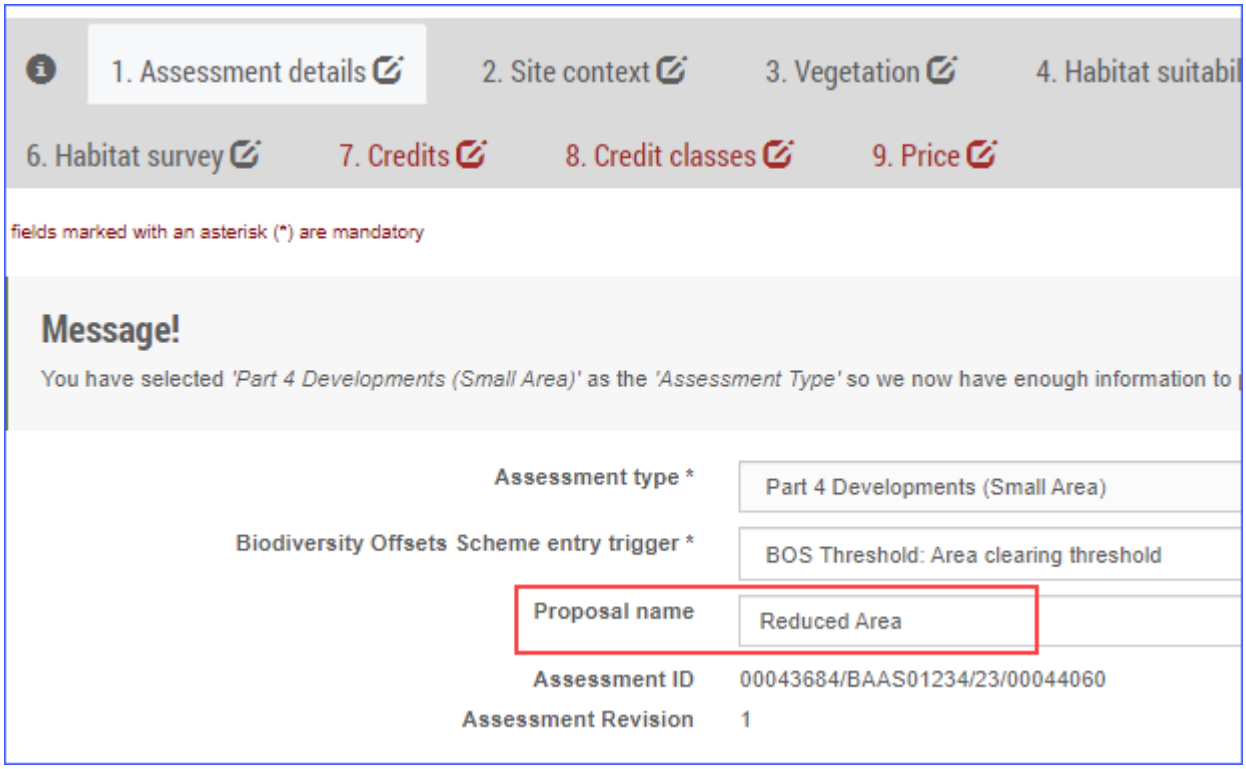
Remember to save your existing revision before creating a new revision if you want to retain the data.

1. Click ‘Save as new revision’ in the row of general functions buttons.

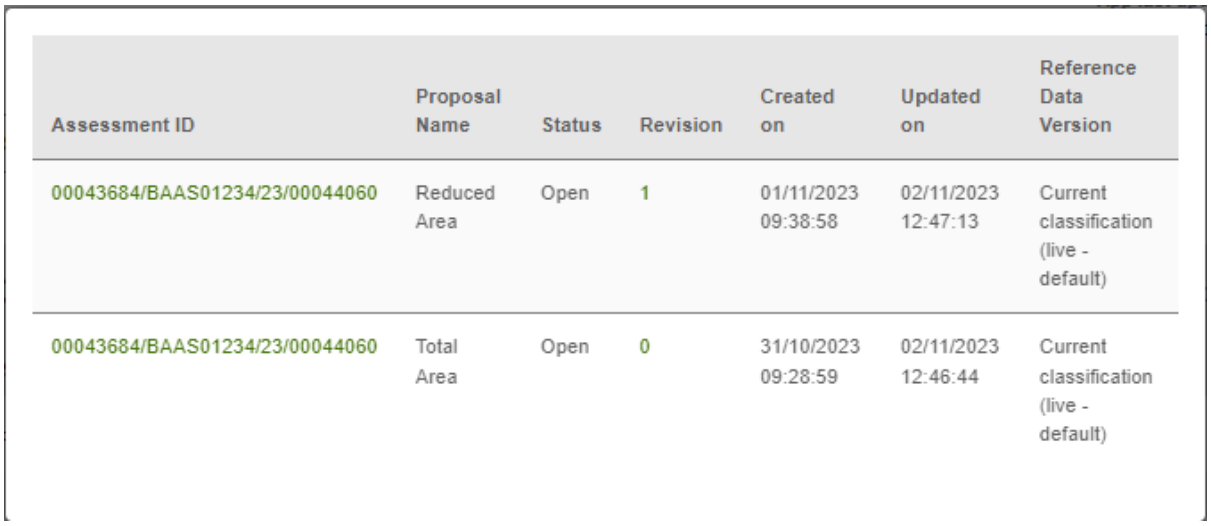
2. A confirmation pop-up will appear, click ‘Yes’.



3. To differentiate between revisions, another proposal name can be added to indicate why the revision was made (for example, a reduced area of assessment to compare the credit outcomes).

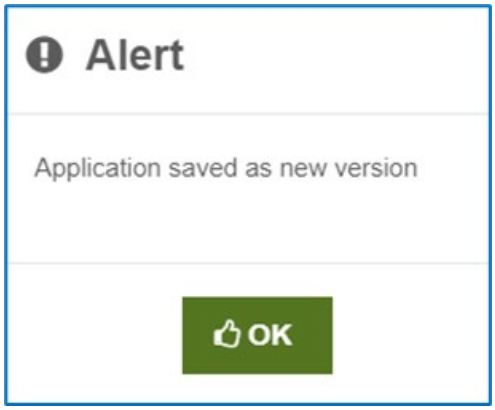


4. A new revision of the assessment will be saved with all updated data and completed calculations.



Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00043684/BAAS01234/23/00044060	Reduced Area	Open	1	01/11/2023 09:38:58	02/11/2023 12:47:13	Current classification (live - default)
00043684/BAAS01234/23/00044060	Total Area	Open	0	31/10/2023 09:28:59	02/11/2023 12:46:44	Current classification (live - default)

5. A pop-up will appear, click 'OK'.



Tip

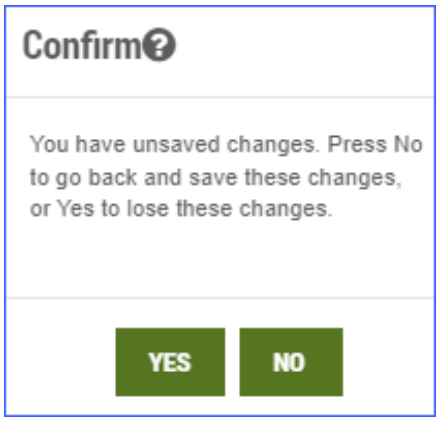
- Create multiple revisions of a case to test the impact of changes to an assessment while maintaining an unchanged copy of the original assessment.
- Any of the assessment revisions created can be finalised and submitted.
- If multiple revisions have been finalised the most recent finalised version will be sent to the consent authority.
- Finalising a revision protects the data and calculations from being modified, either when comparing various scenarios, or when assigning the case to another case party.

3.4 Cancel an assessment

You can cancel a revision at any time. All data and calculations since the last save will be cleared.

1. To cancel your progress, click ‘Cancel’ in the row of general functions buttons.

2. Click ‘Yes’ in the pop-up to confirm.



3. The open revision will revert to the most recent saved data and calculations.

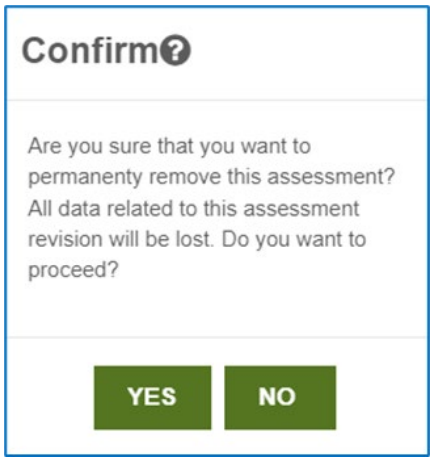
3.5 Delete an assessment revision

1. To permanently delete an assessment, click ‘Delete’ in the row of general functions buttons.

Tip

- Only revisions with an ‘Open’ status can be deleted. ‘Finalised’ or ‘Locked’ assessments cannot be deleted.

2. Click ‘Yes’ in the pop-up to confirm.



3. To delete the entire child case, refer to Subsection 2.5.2 of this guide.

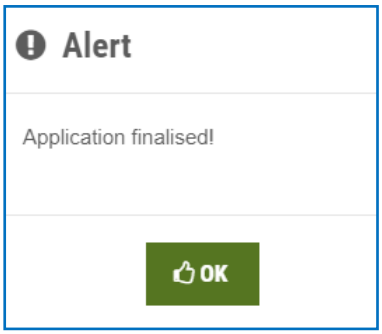
3.6 Finalise an assessment revision

Once all required information has been entered into a revision, the revision can be finalised. Multiple revisions of a case can be finalised.

1. Ensure all the required data for the revision has been entered and saved before finalising it.
2. To finalise an assessment, click 'Finalise' in the row of general functions buttons.

3. Click 'Yes' in the pop-up to confirm.

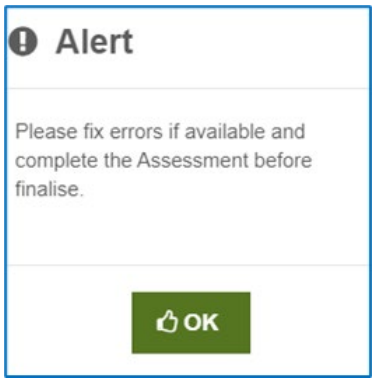
4. Another pop-up will appear, click 'OK'.



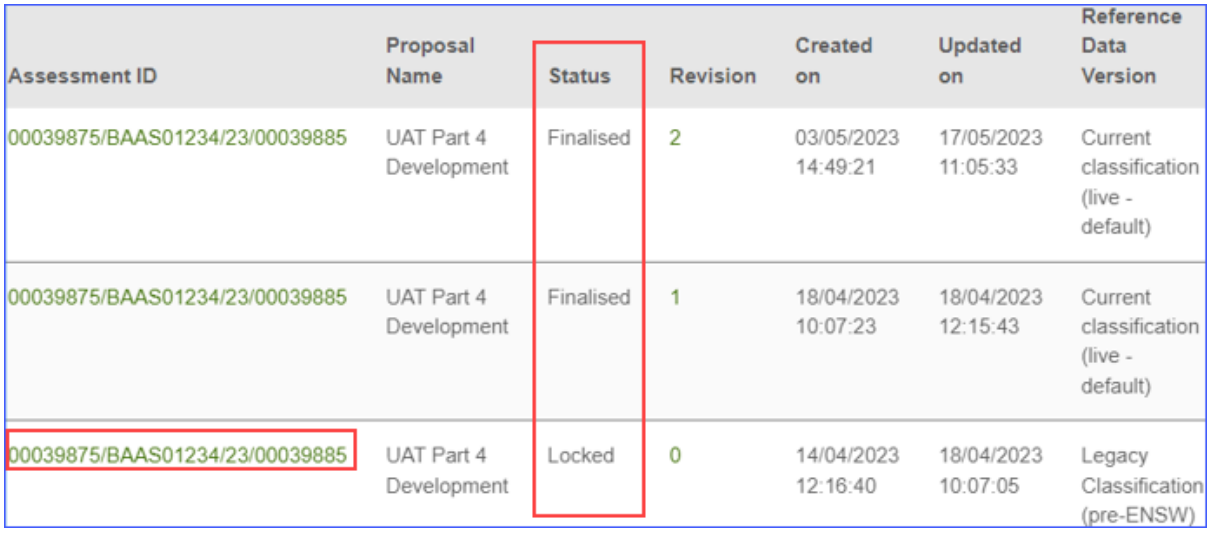
Tip

- To finalise a case in the BAM-C, the following information must first be recorded in the BOAMS parent case:
  - landholder case party (either corporation or individual landholder)
  - property details.
- Refer to the *BOAMS Guide for Accredited Assessors* for further information (see Appendix B).

5. An alert pop-up will appear if the assessment is incomplete. Click ‘OK’, then go back to the assessment and complete all mandatory fields.



6. Any previously open revisions are also retained (as read-only) with a status of ‘Locked’. Users can view the data for these assessments by clicking the assessment ID. The assessment ID number is the identifier number of the parent and child case created through BOAMS.



Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	2	03/05/2023 14:49:21	17/05/2023 11:05:33	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	1	18/04/2023 10:07:23	18/04/2023 12:15:43	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Locked	0	14/04/2023 12:16:40	18/04/2023 10:07:05	Legacy Classification (pre-ENSW)

7. Once a revision is finalised, the available function buttons for the assessment change to ‘Open’ and ‘Re-open’. Clicking ‘Open’ will display a read-only version of the assessment.

8. You can, however, reopen and update the assessment provided it has not been submitted to the consent authority through BOAMS. Click ‘Re-open’ to do this.

3.7 Reopen a revision after finalising

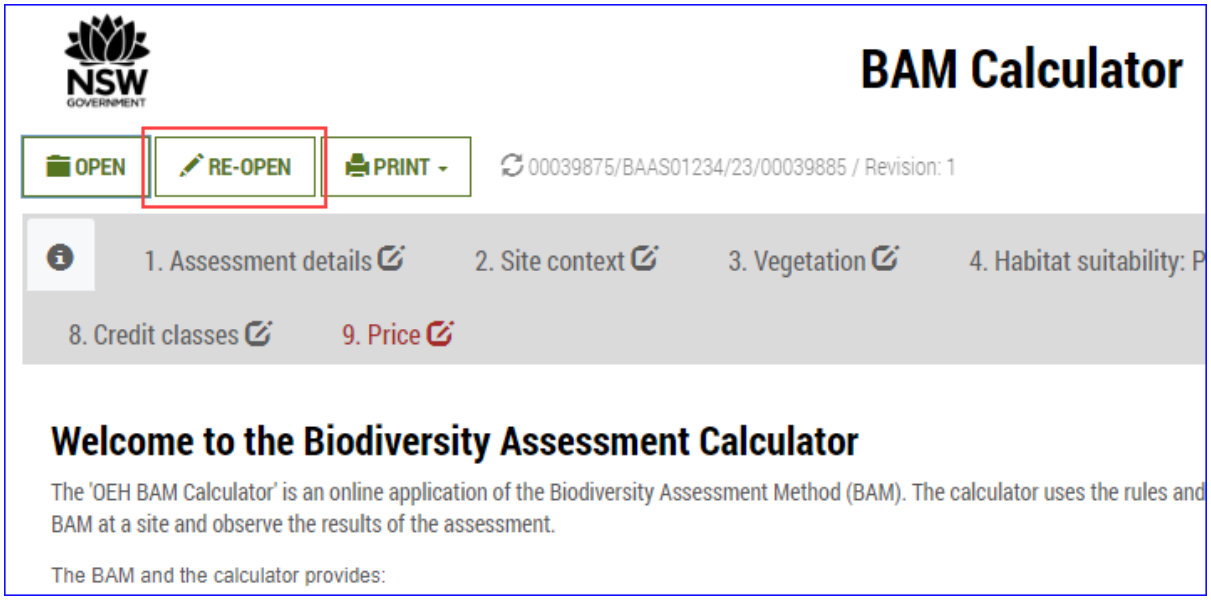
An assessment can be finalised multiple times, which will create multiple revisions.

1. View the assessment revision information by clicking 'Open' and then clicking on the assessment ID hyperlink. Each finalised revision is retained (as read-only) with a 'Finalised' status.

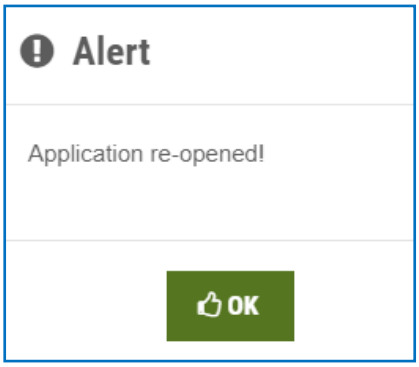
   The most recent 'Finalised' revision will appear at the top of the list, and the data from this revision will be used by BOAMS when submitting assessments to the consent authority. All assessments that have not been finalised will be locked.

Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	2	03/05/2023 14:49:21	17/05/2023 11:05:33	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	1	18/04/2023 10:07:23	18/04/2023 12:15:43	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Locked	0	14/04/2023 12:16:40	18/04/2023 10:07:05	Legacy Classification (pre-ENSW)

2. To reopen a finalised revision, click the link from its assessment ID and then click 'Re-open'.



3. A pop-up will open to say the application has been reopened. Click ‘OK’.



Assessment ID	Proposal Name	Status	Revision	Created on	Updated on	Reference Data Version
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Open	3	17/05/2023 11:16:16	17/05/2023 11:16:16	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	2	03/05/2023 14:49:21	17/05/2023 11:05:33	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Finalised	1	18/04/2023 10:07:23	18/04/2023 12:15:43	Current classification (live - default)
00039875/BAAS01234/23/00039885	UAT Part 4 Development	Locked	0	14/04/2023 12:16:40	18/04/2023 10:07:05	Legacy Classification (pre-ENSW)

Tip

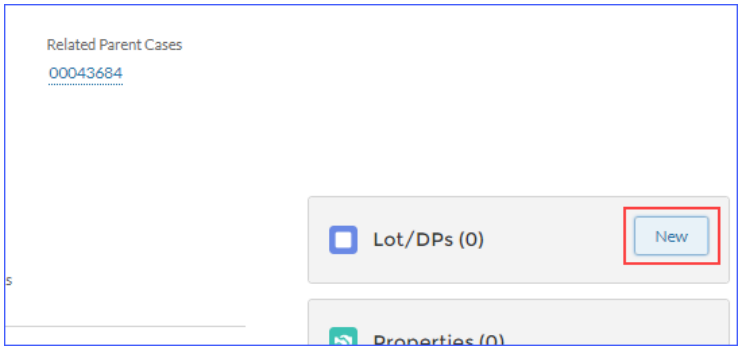
- The ‘Save’ and ‘Save as new revision’ buttons are no longer available once an assessment is finalised.
- The ‘Open’ button allows different revisions to be viewed along with information about each revision.
- To continue working on a locked or finalised revision, click on the assessment ID hyperlink, then click the ‘Save as a new revision’ button. All data from the locked or finalised version will be copied to the new revision.

3.8 Use Biodiversity Offsets and Agreement Management System to submit a case to the consent authority

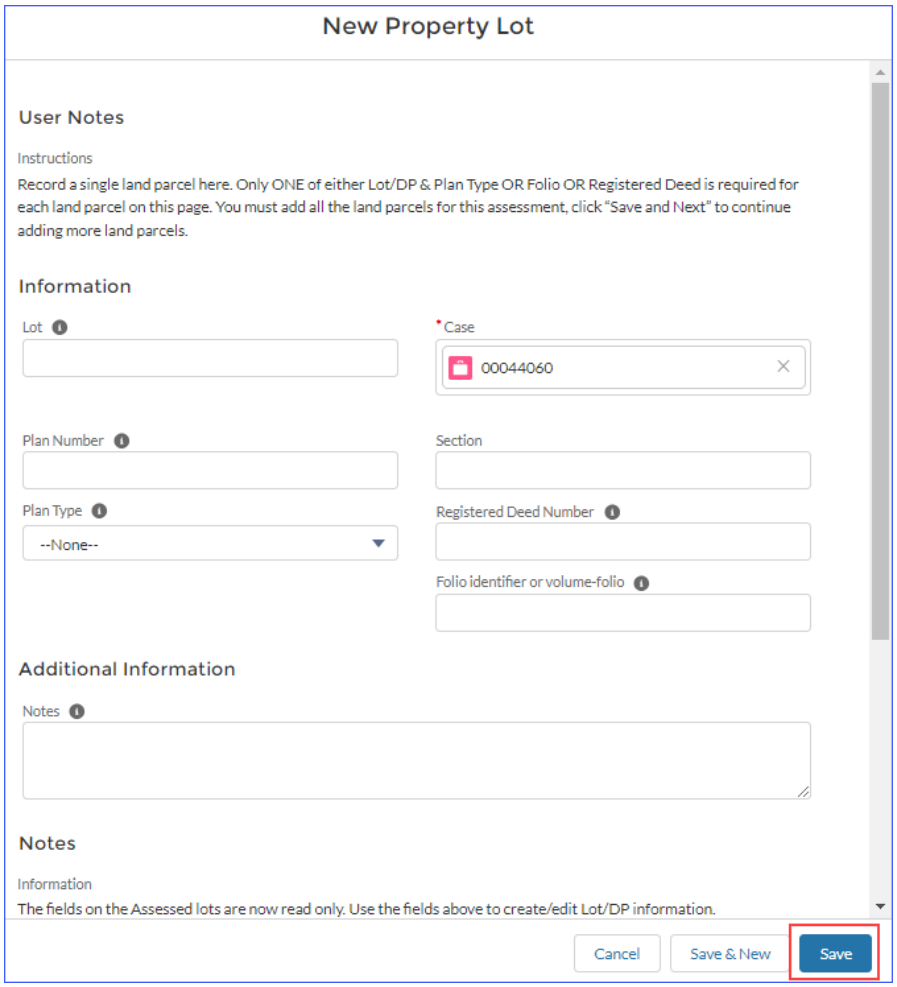
The steps required to submit a case to the consent authority differ depending on whether the assessment is for a development or a stewardship proposal, as shown below in Subsections 3.8.1–3.8.3.

3.8.1 Add Lot/DP and case parties (all assessment types)

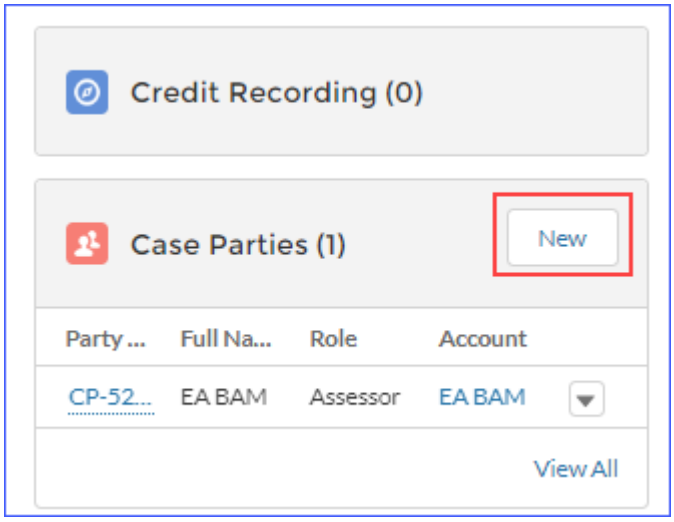
1. Add the lot and deposited plan (DP) details to the child case by clicking ‘New’ on the ‘Lot/DPs’ tab on the child case page.



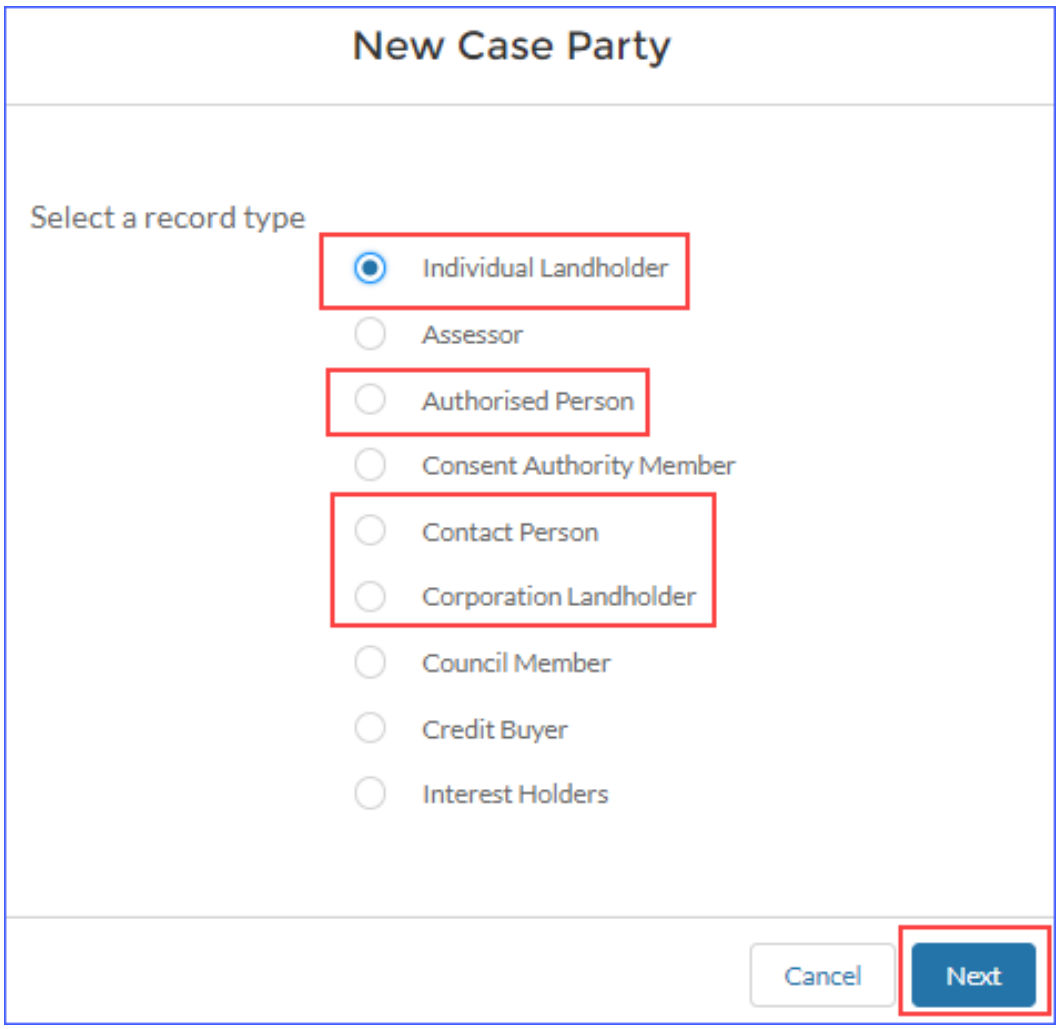
2. Enter the lot and DP information and click ‘Save’.



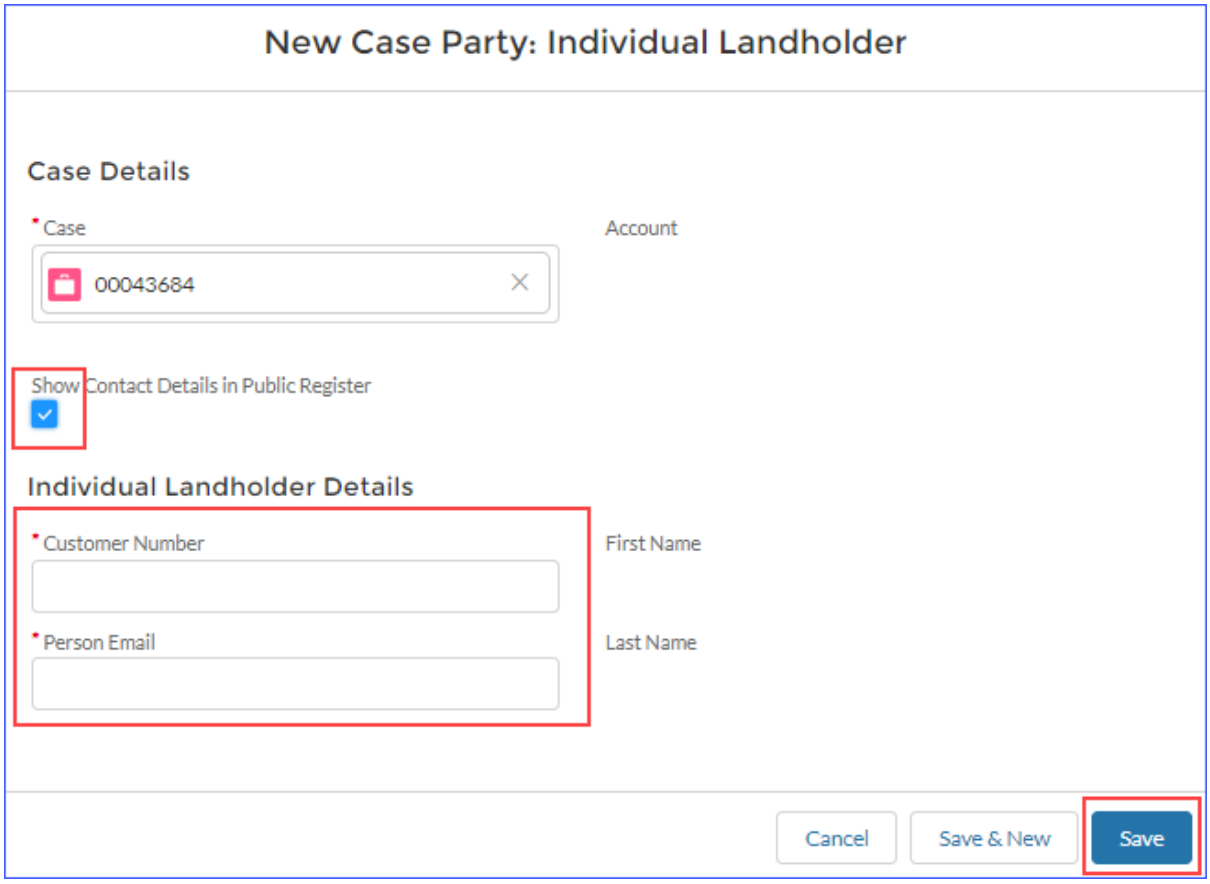
3. Return to the parent case page and add an individual landholder or landowner representative case party by clicking ‘New’ on the ‘Case Parties’ tab to open the ‘New Case Party’ dialog box. Other case parties may also be added if required.



4. Select the case party type to be added, then click ‘Next’.



5. Enter the case party details. All fields with a red asterisk are mandatory. Tick the box to 'Show contact details in public register' if required (mandatory for stewardship cases only). Click 'Save'.



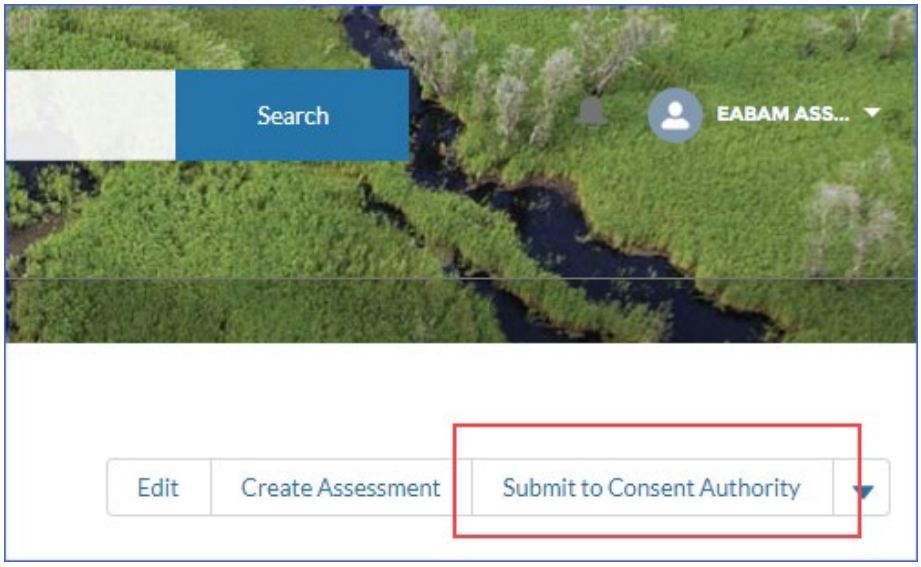
6. Follow the instructions above to add the consent authority as a case party.

3.8.2 Submit a development-type case

To submit a development-type case to the consent authority, first follow the steps in Subsection 3.8.1 to add the lots/DPs and the landholder and consent authority case parties.

1. With the parent case selected in BOAMS, click 'Submit to Consent Authority'.

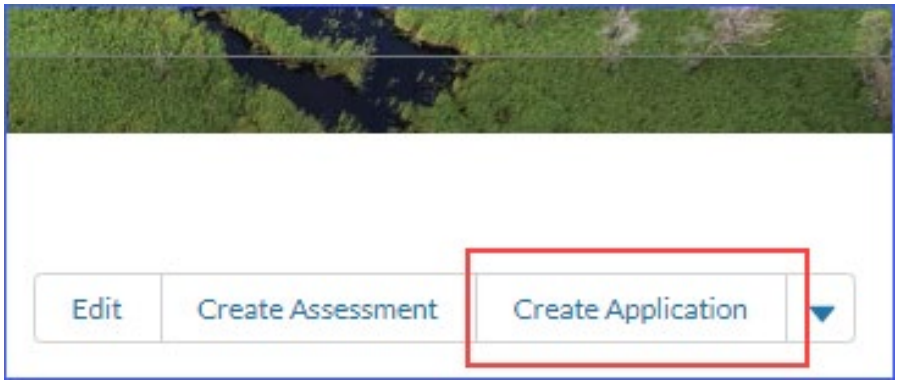
   The assessment (child case) must be finalised before taking this step. Where there are multiple finalised assessments, the most recent finalised assessment will be submitted to the consent authority.



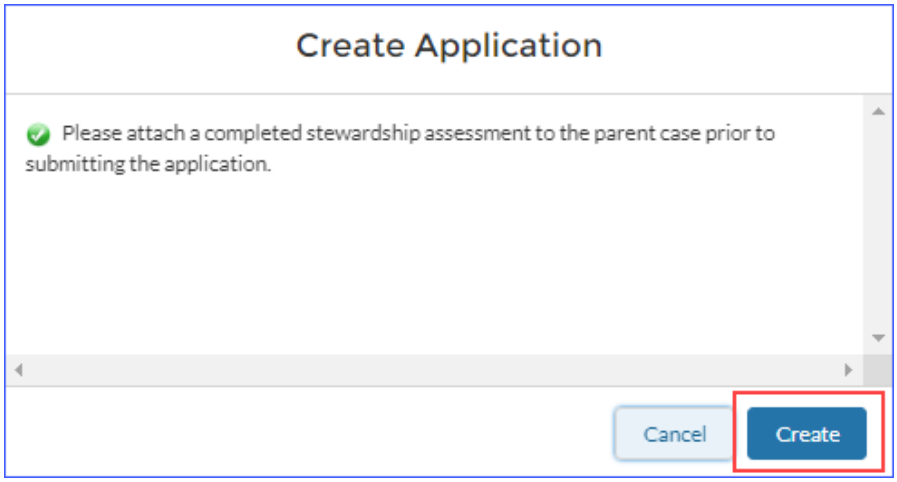
3.8.3 Submit a stewardship case

To submit a stewardship case (for offset sites) in BOAMS, first follow the steps in Subsection 3.8.1 to add the lots/DPs and the landholder case party.

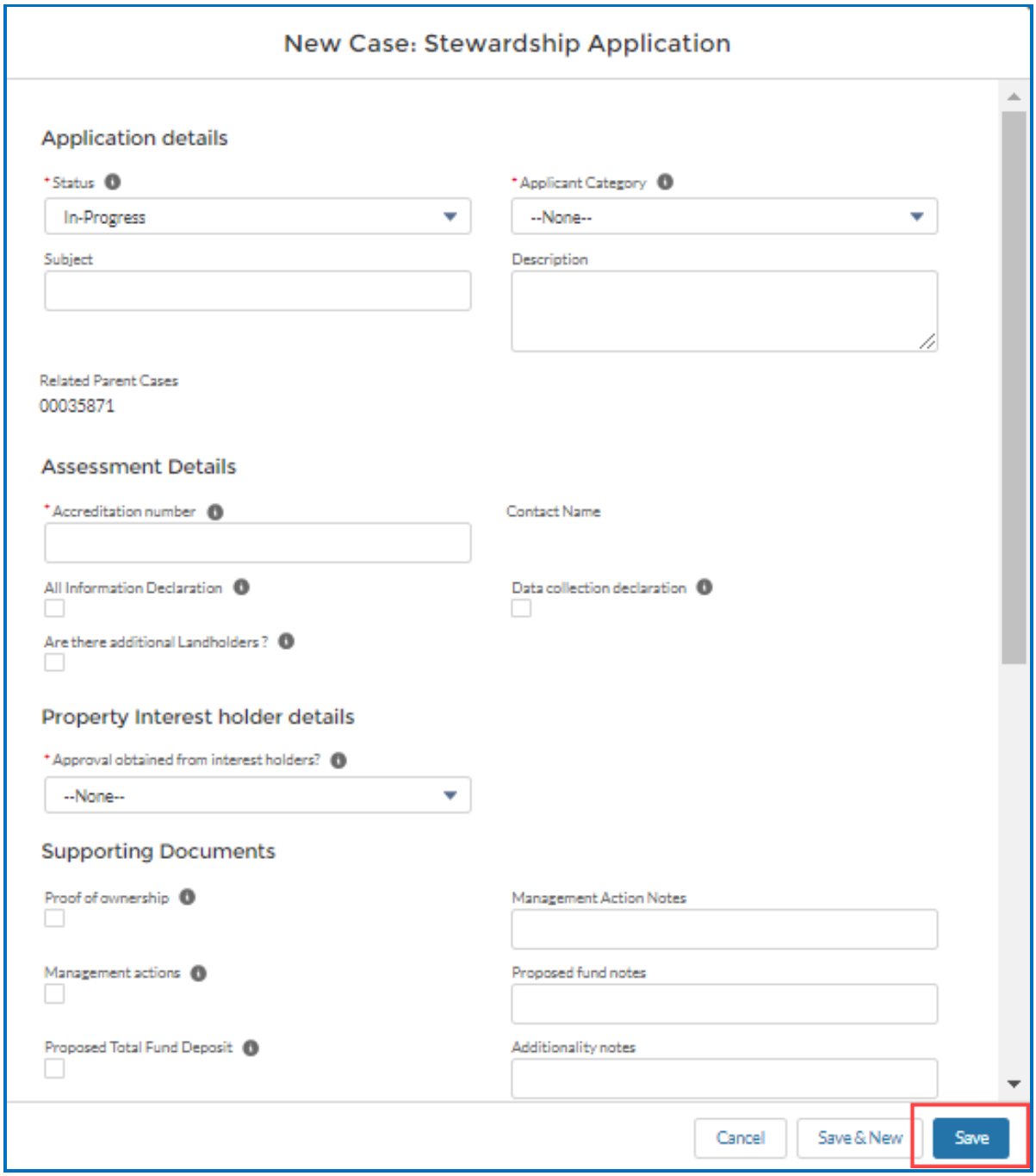
1. With the parent case selected in BOAMS, click ‘Create Application’.



2. A pop-up will open reminding you that a completed stewardship assessment must be attached to the parent case prior to submission. Click ‘Create’.

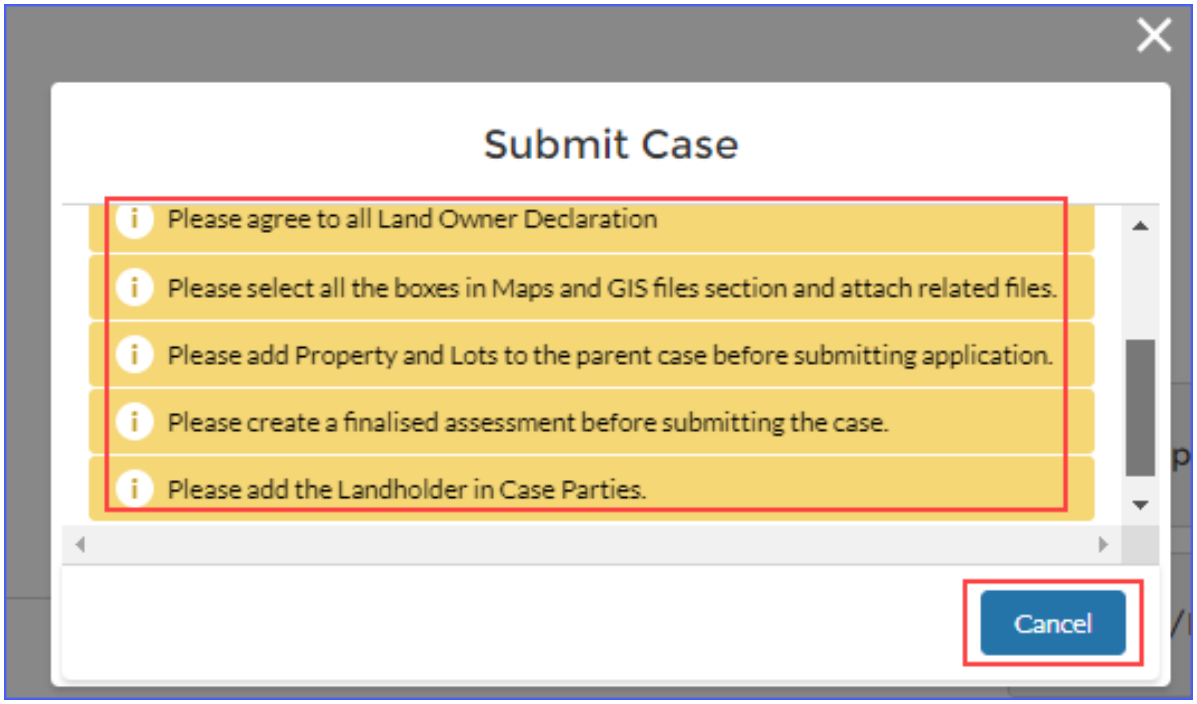


3. Enter the required information, attach the relevant documents and tick the boxes to indicate which documents have been provided. Fields marked with a red asterisk are mandatory. Once complete, click ‘Save’.

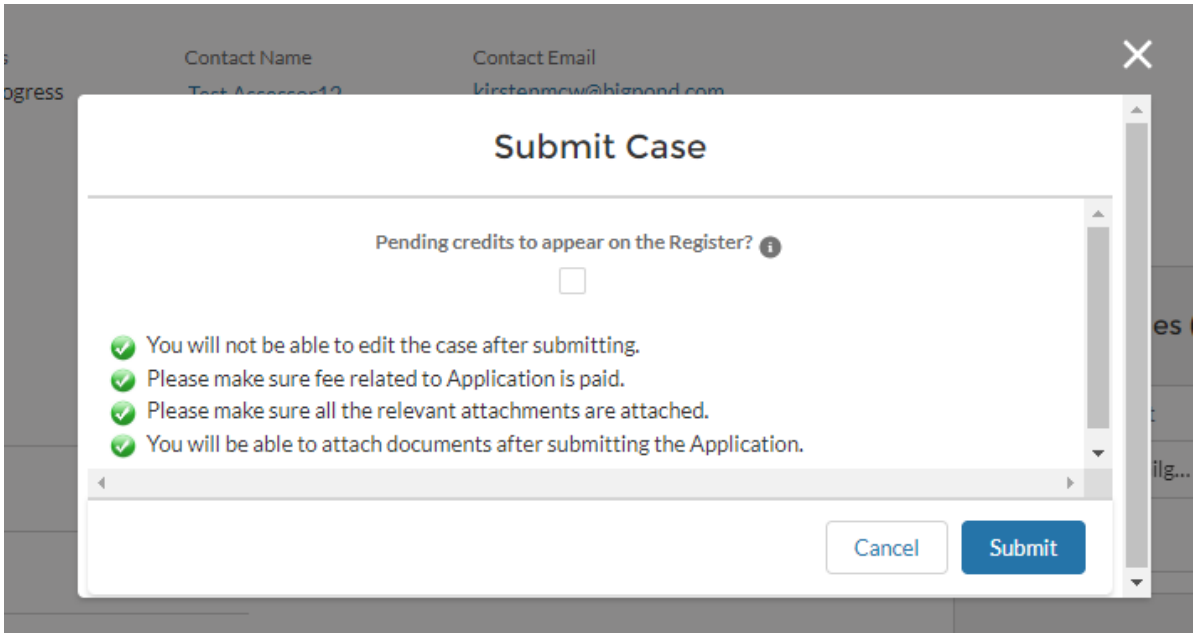


4. Once the application has been saved and all necessary documents have been attached to the parent case, it can be submitted by clicking ‘Submit’.

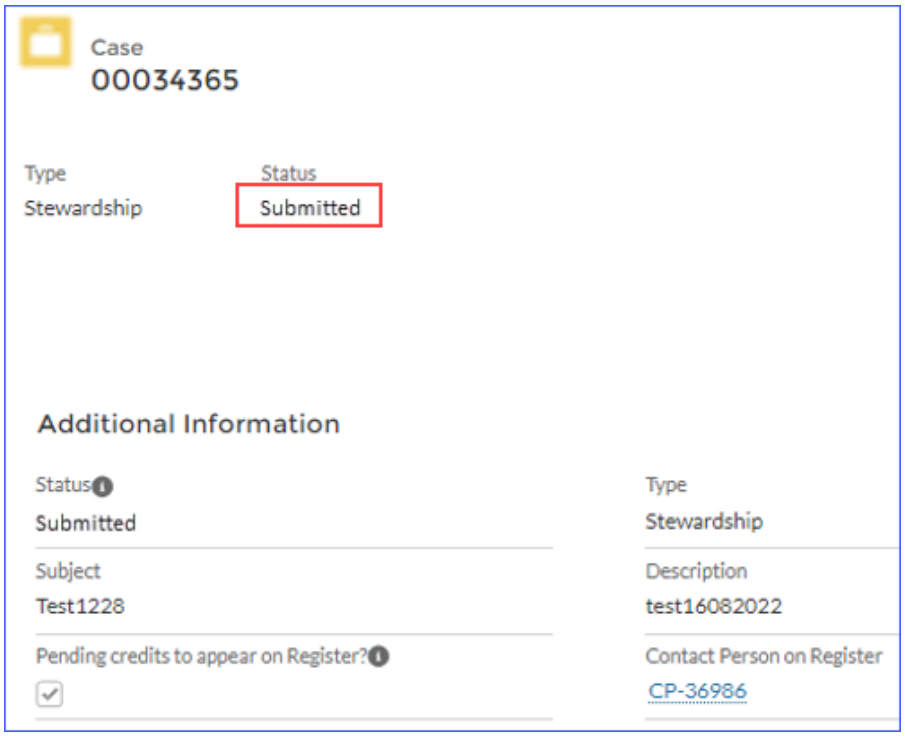
5. Alternatively, the application may be saved and submitted after completing the required components of the stewardship application. If error messages display when you try to submit, review the message(s), then click ‘Cancel’ and complete the outstanding action(s).



6. When everything is ready for submission, click ‘Submit’.

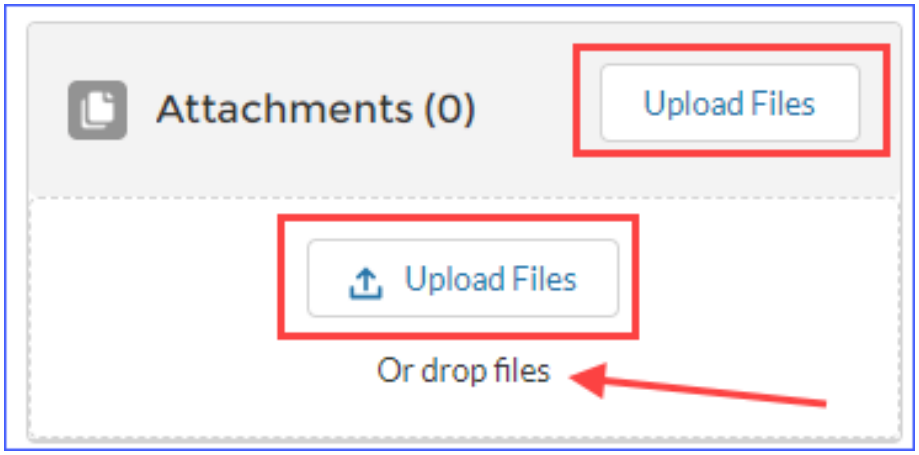


7. After submission the status on the parent case page will update to ‘Submitted’.



3.8.4 Add case attachments

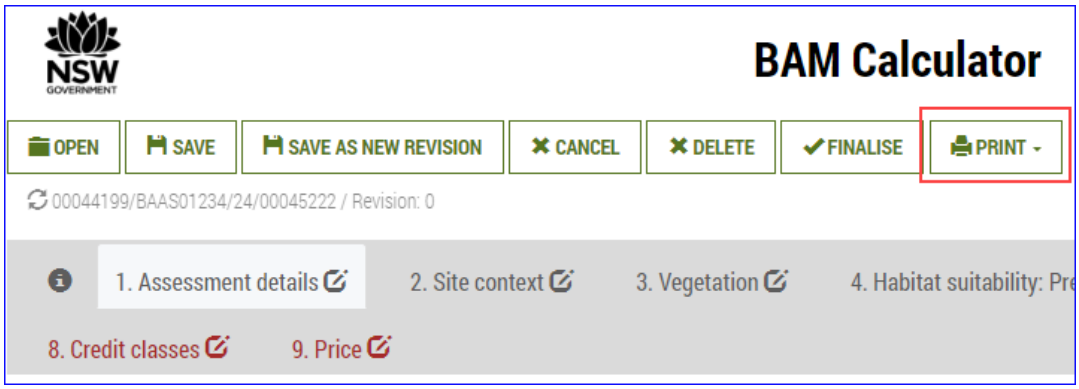
To add attachments and shapefiles to BOAMS, select the BOAMS parent case and click on the ‘Upload Files’ button on the ‘Attachments’ tab. Files can also be dragged and dropped into the ‘Attachments’ tab.



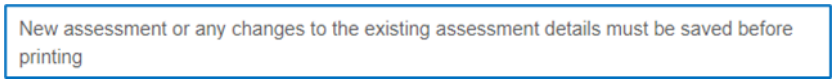
3.9 Print a report

You must launch the BAM-C via BOAMS as a registered user to use the report functionality in the BAM-C.

1. Open the required assessment revision and click ‘Print’.



2. Assessment details must be saved before printing.

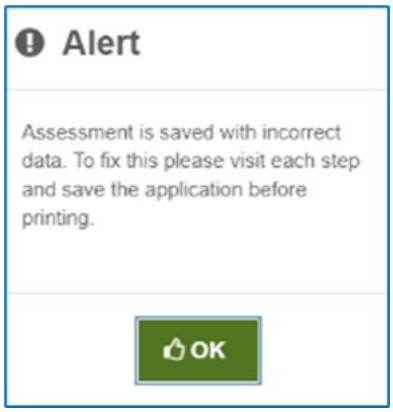


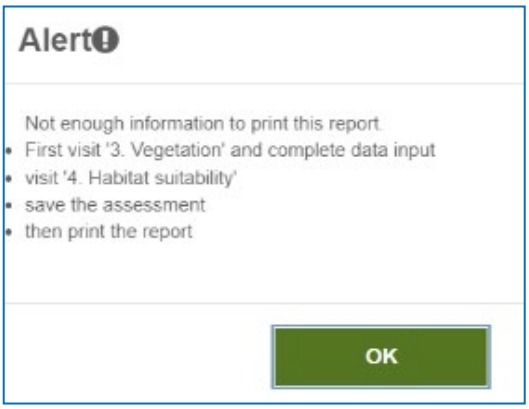
3. A drop-down list of the available reports will appear below the ‘Print’ button. The list will differ depending on whether it is a development/clearing, scattered tree or stewardship assessment.

Development cases

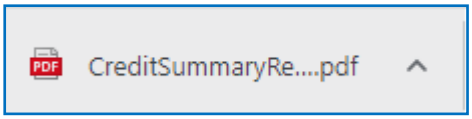
Stewardship cases

4. Select the relevant report. If an alert box appears, the report cannot be printed until the issues in the alert box have been addressed.





5. When all outstanding issues have been addressed, the report will open in PDF format, and will download to your downloads folder.



The purpose of each report is detailed in Table 2.

Table 2 Purpose of BAM-C reports

Assessment type *	Report	Purpose
Development, scattered tree and stewardship	Credits Summary Report	Details the ecosystem credits for plant community types (PCTs), ecological communities, threatened species habitat, and species credits for threatened species
Development and stewardship	Candidate Threatened Species Report	Lists species requiring survey
Development, scattered tree and stewardship	Predicted Species Report	Lists threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species
Development, scattered tree and stewardship	Vegetation Zones Report	Provides information about the vegetation zone(s)
Development and scattered tree	Biodiversity Credit Report (Like-for-like)	Provides details of like-for-like ecosystem and threatened species retirement options
Development and scattered tree	Biodiversity Credit Report (Variations)	Provides details of variation options for ecosystem and threatened species

Assessment type *	Report	Purpose
Scattered tree	Scattered Tree Report	Lists the tree groups and the number of trees, their class, DBH category, if they contain hollows, and if they require assessment
Stewardship	Biodiversity Credit Report	Details the ecosystem credit summary (number and class of biodiversity credits to be created)

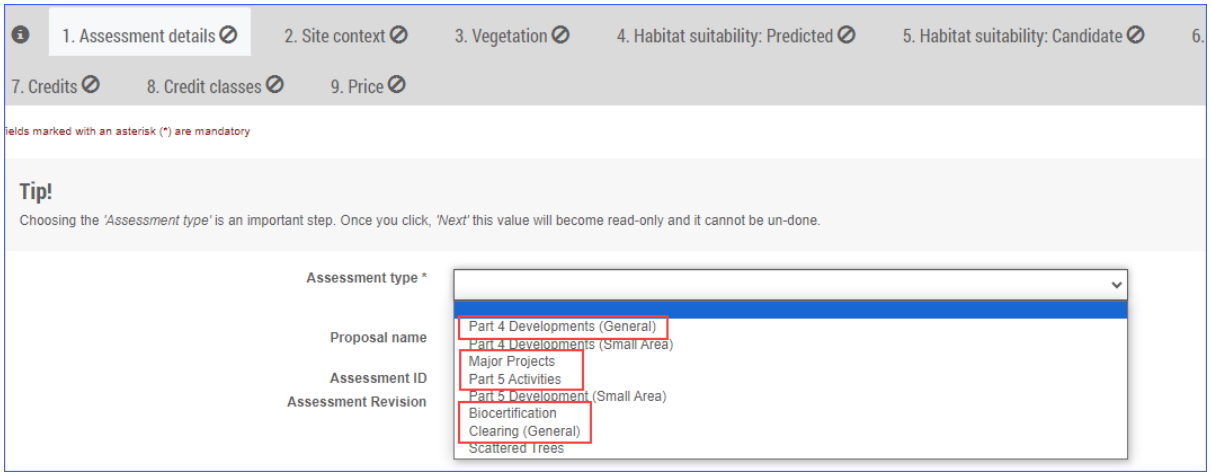
* Development assessments include Part 4 Developments (General), Part 5 Activities, Major Projects, Clearing (General), Biocertification, Part 4 small area, and Part 5 small area.

4. Creating a development/clearing assessment

The types of assessment covered by this chapter are:

- Part 4 Developments (General)
- Part 5 Activities
- Major Projects
- Clearing (General)
- Biocertification.

Refer to Chapter 5 of this guide for information on assessing small areas, Chapter 6 for assessing scattered trees, and Chapter 7 for assessing stewardship (for offset) sites.

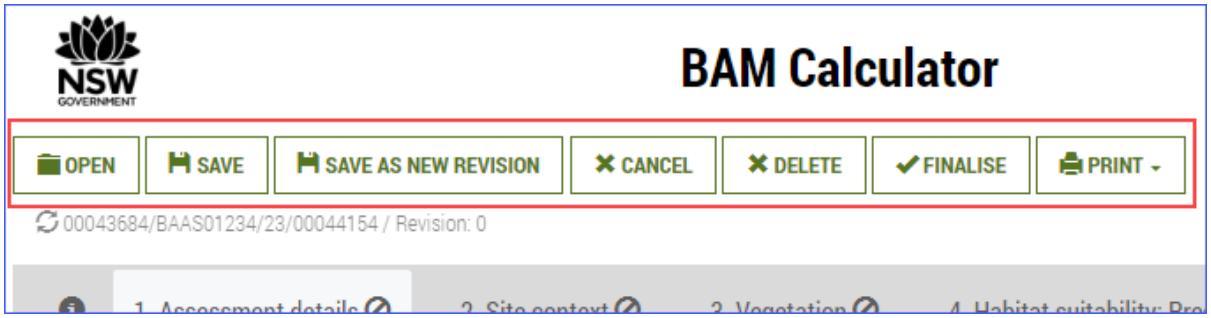


When entering data into each tab of the BAM-C, proceed to the next tab by using the 'Next' button at the bottom of the page. The data added then flows through to the next tab in the BAM-C.

Tip

- Remember to click 'Next' so the data entered flows through to the subsequent tabs and calculations.
- Once the information on all tabs has been completed, you may navigate through the populated tabs by clicking on the tab heading. If any data is modified, you must click the 'Next' button at the bottom of the page, and at the bottom of every subsequent tab to ensure the credits are calculated correctly and the reports are updated.

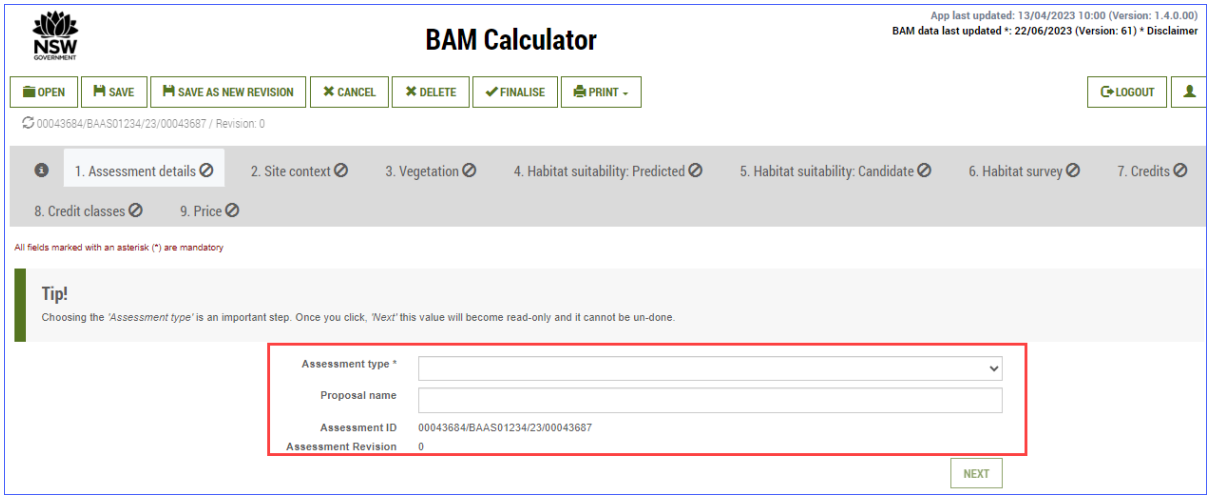
There are high level functions that act across all tabs to help you manage assessments and create output from the BAM-C. Refer to Chapter 3 for information on these functions.



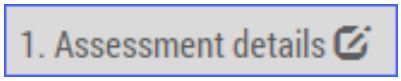
Sections 4.1–4.9 below detail how to use each of the tabs in the BAM-C to enter details for a development/clearing assessment.

4.1 Assessment details (Tab 1)

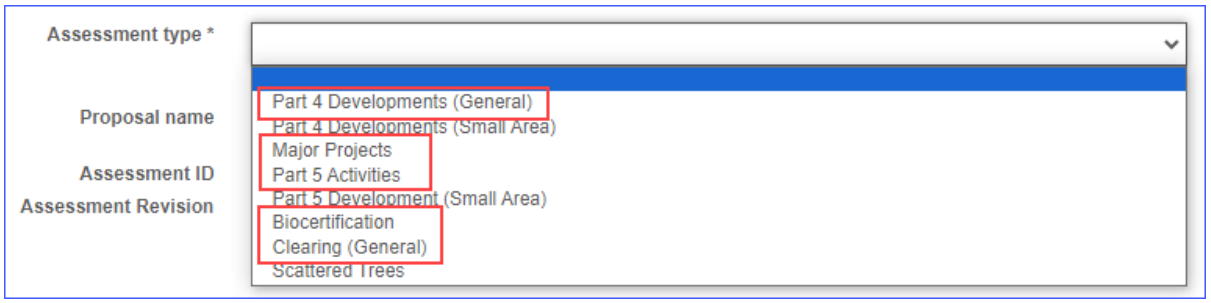
The 'Assessment details' tab is used to capture the type of development assessment and record the proposal name.



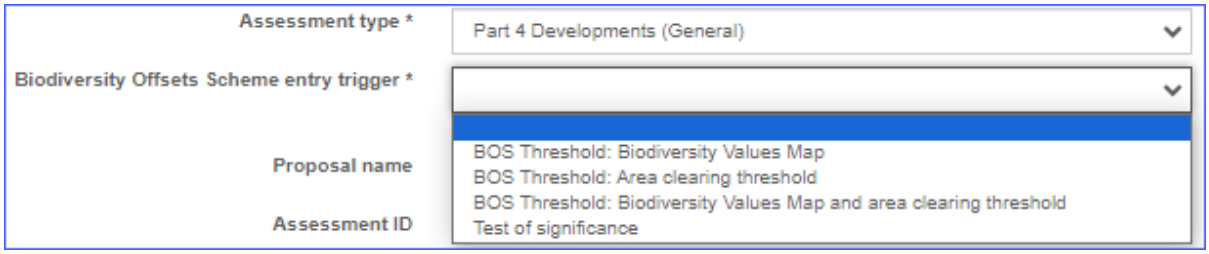
1. Click on the 'Assessment details' tab to enter assessment details.



2. Use the 'Assessment type' drop-down to select the assessment type.



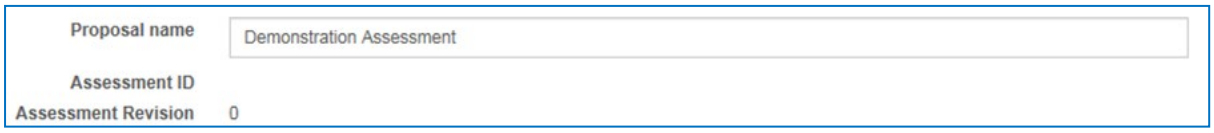
3. Use the 'Biodiversity Offsets Scheme entry trigger' drop-down to select the required entry trigger. For more information on the entry trigger, refer to the *When does the Biodiversity Offsets Scheme apply?* webpage.



Tip

- The 'Biodiversity Offsets Scheme entry trigger' is not available for major projects (state significant development or state significant infrastructure), Part 5 Activities or Biocertification cases, as the entry trigger is not applicable to these types of assessments.

4. Add a unique description into the 'Proposal name' field.



Tip

- The proposal name is a valuable identifier for the BAM-C assessment.
- A unique proposal name will help you distinguish differences between assessment revisions.

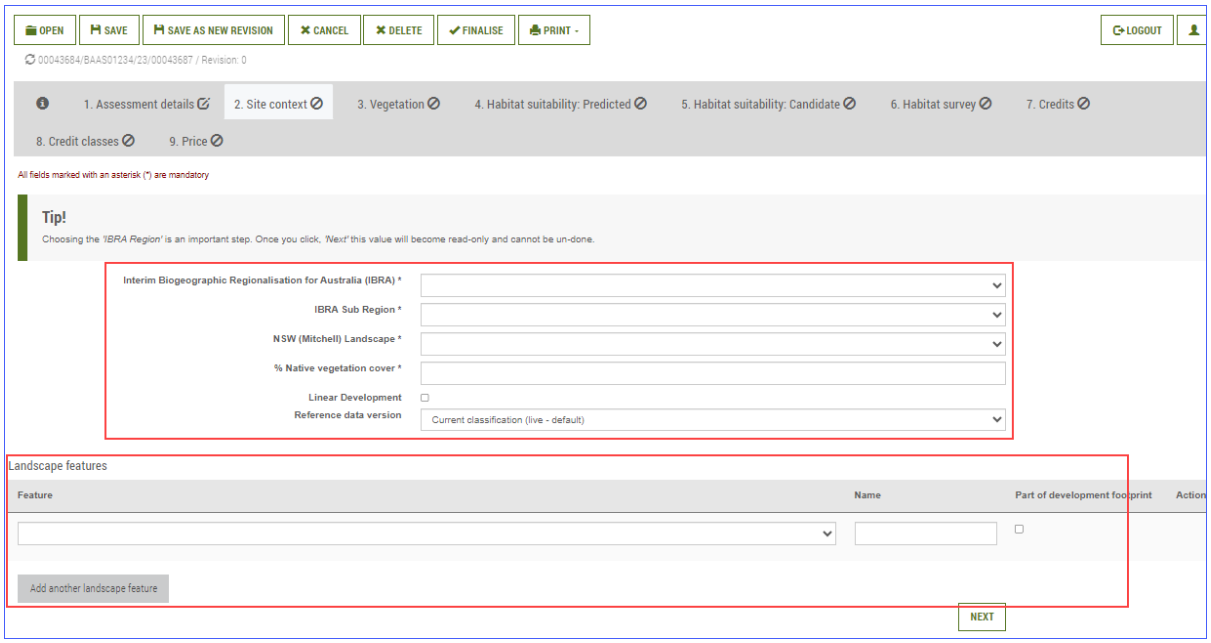
5. When all required information has been entered, click 'Next' to move to Tab 2.

Tip

- Once 'Next' is clicked, the assessment type for the assessment is locked.
- To change the assessment type, cancel or exit the assessment before saving and reopen the assessment.
- If the assessment has the incorrect assessment type and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click 'Next' to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

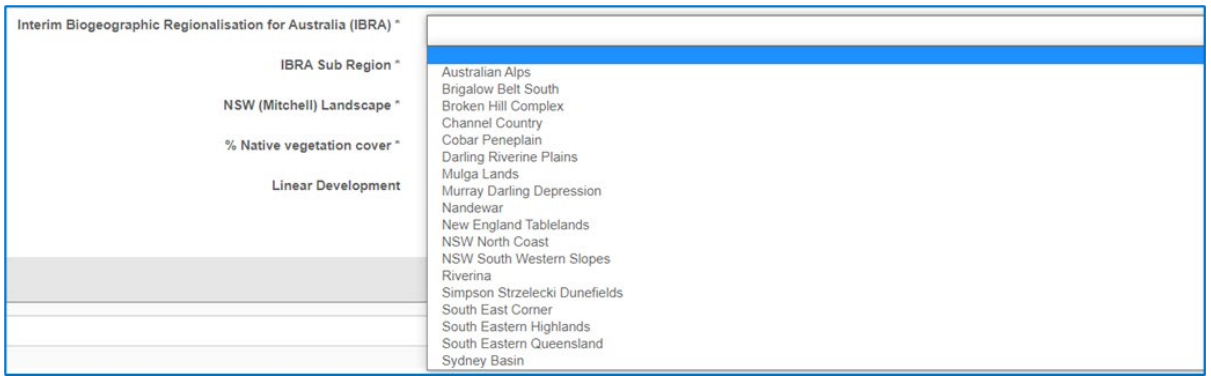
4.2 Site context (Tab 2)

The ‘Site context’ tab is used to capture information relating to the biogeographic and landscape setting of the site. Information required for this tab is displayed below.



1. The ‘Site context’ tab will be open if ‘Next’ was clicked on Tab 1.

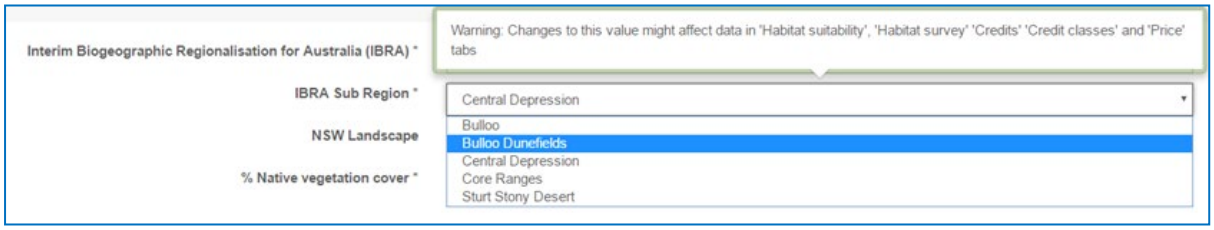
2. Use the ‘Interim Biogeographic Regionalisation for Australia (IBRA)’ drop-down to select the IBRA region. If the assessment occurs across multiple IBRA regions, select the IBRA region where the largest proportion of impact/area will occur.



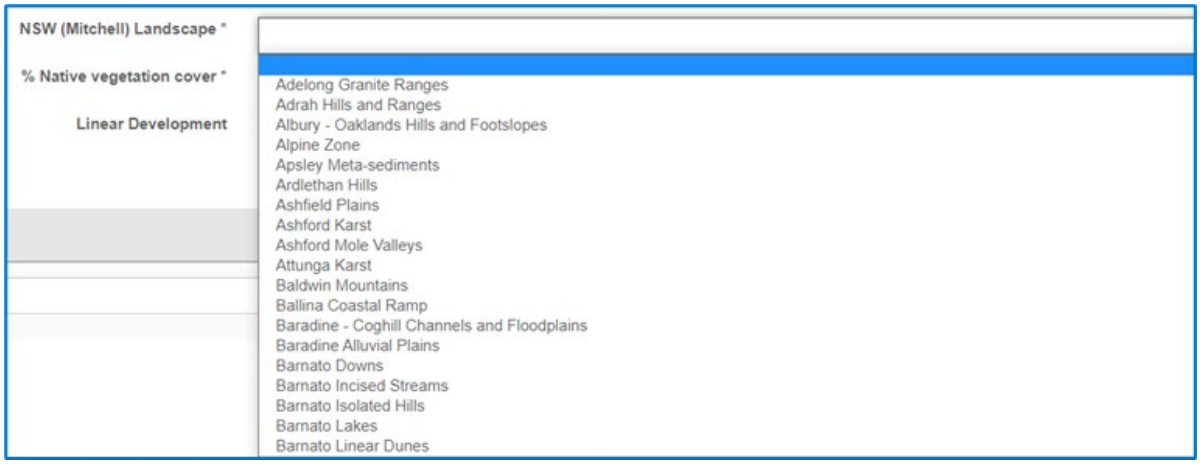
Tip

- In some circumstances, it may be necessary to assess a clearing or development proposal using multiple child cases. For example, a linear proposal that crosses multiple IBRA subregion boundaries (see BAM 2020, Subsection 3.1.3(2)), or where a threatened ecological community (TEC) is determined to be present on site, but the dominant subregion is not associated with that TEC.
- See *Bioregions of NSW* for further information on the state's bioregions (see Appendix B).
- See BAM 2020, Chapter 3 for further information on establishing the site context.
- The IBRA subregion selection affects future selections of PCTs, TECs and species.

3. Use the 'IBRA Sub Region' drop-down to select the IBRA subregion in which most of the site is located. The drop-down is filtered based on the IBRA region selected in step 2.



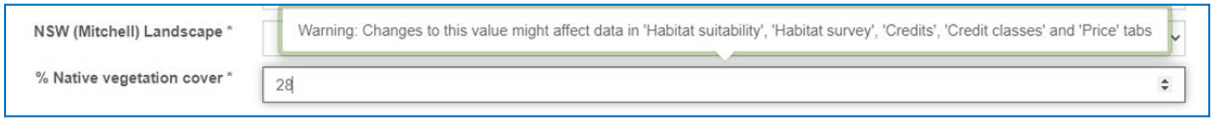
4. Use the 'NSW (Mitchell) Landscape' drop-down to select the landscape in which most of the proposal occurs.



Tip

- NSW (Mitchell) landscape does not influence calculations of VI or credit calculations for development cases but is important for stewardship applications and is also used in reporting.
- See *Descriptions for NSW (Mitchell) Landscapes* for further information (see Appendix B).

5. Enter a value for the percentage landscape native vegetation cover in the '% Native vegetation cover' field.



Tip

- See BAM 2020, Section 3.2 for further information on native vegetation cover.
- The % native vegetation cover value entered may affect the predicted and candidate fauna species lists. Refer to the definition of 'Suitable habitat' in the BAM 2020 Glossary for more information.

6. Tick the 'Linear Development' checkbox if the development is linear-shaped. Linear-shaped development is generally narrow and extends across the landscape, for example, major roads and rail lines.

7. **Reference data version** – The revised Eastern NSW PCT Classification has been deployed into the BAM-C, and revisions to the remainder of the state will be rolled out over the coming years. The reference data version may have different options available depending on when the assessment was created and which IBRA region is selected.

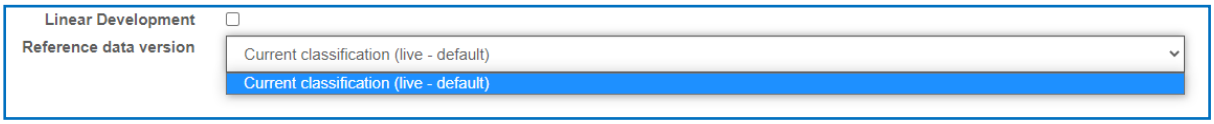
   Instructions are provided for the following scenarios:

   a. new assessments inside a revised NSW IBRA region
   b. existing assessments inside a newly revised NSW IBRA region
   c. new or existing assessments outside a newly revised NSW IBRA region.

   a. New assessments inside a revised NSW IBRA region

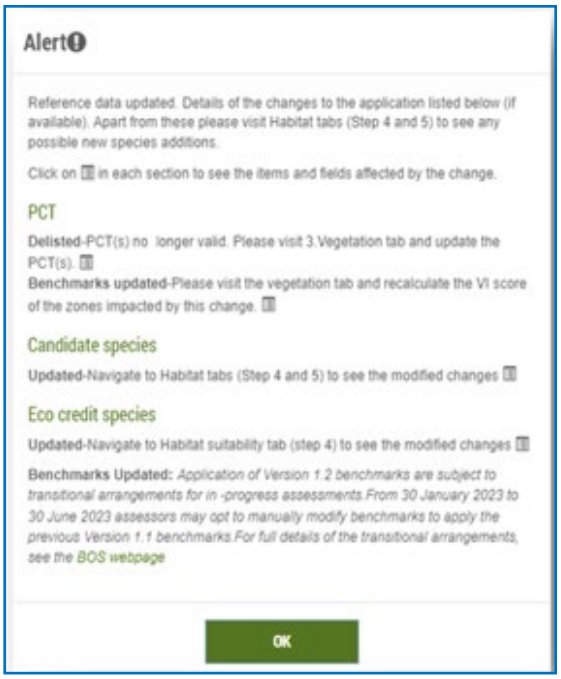
   All new assessments created after deployment of a revised NSW PCT classification will automatically use the revised NSW PCTs when an associated NSW IBRA region is selected.

The only option in the ‘Reference data version’ drop-down will be ‘Current classification (live – default)’.



b. Existing assessments inside a newly revised NSW IBRA region

Reopening ‘Open’, ‘Locked’ or ‘Finalised’ assessments created before deployment of a newly revised NSW PCT classification will trigger an update with the revised NSW PCTs. This will trigger an alert detailing the changes that have occurred in the assessment.

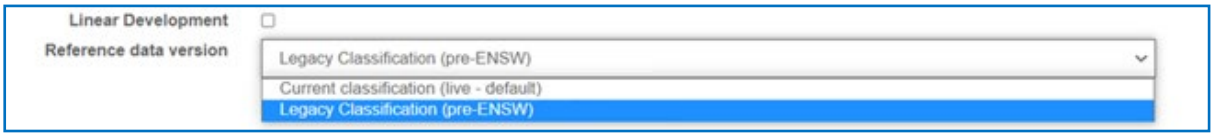


Tip

- Take a screenshot of the alert showing the updates. Alerts will not display again once the case has been saved.

To use legacy PCTs during a transitional period, select the legacy classification in the ‘Reference data version’ drop-down.

Alternatively, to use the revised NSW PCTs select ‘Current classification (live – default)’.

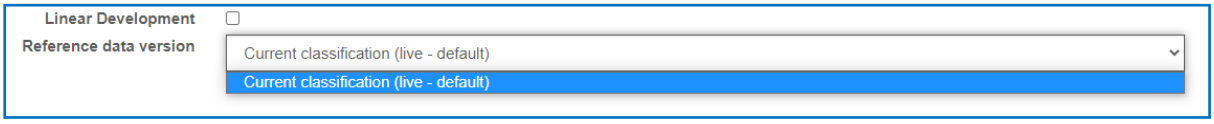


To progress an assessment with revised data, the following tabs may require amendment:

- Tab 3 – Vegetation
- Tab 4 – Habitat suitability: Predicted
- Tab 5 – Habitat suitability: Candidate
- Tab 6 – Habitat Survey.

c. New or existing assessments outside a revised NSW IBRA region

New or existing assessments outside of a newly revised NSW IBRA region will ***not*** update with new NSW PCTs, as they are not relevant. The only available option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



Tip

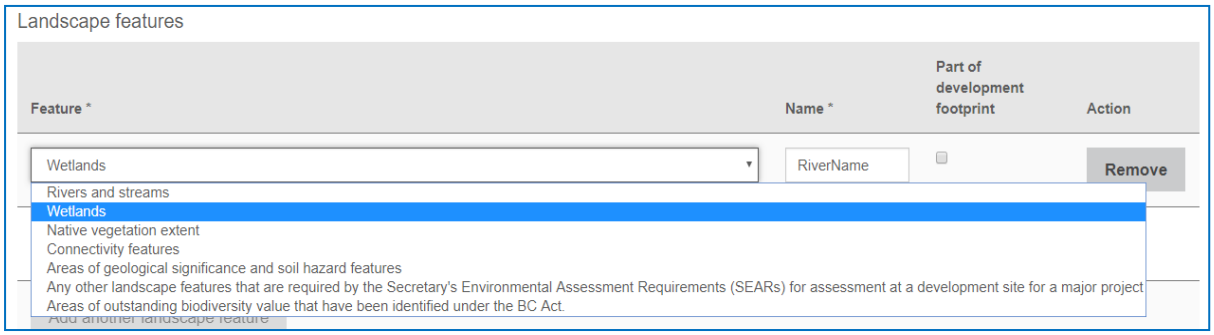
- Further information on transitional arrangements is available from the *New vegetation integrity benchmarks and plant community types* webpage (see Appendix B).
- When a transitional period ends, the only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'. At this time, revised NSW PCTs must be used for all assessments within the associated NSW IBRA regions.
- Clear your browser cache to ensure any newly revised NSW PCTs and the legacy reference data version display correctly in the drop-down.

Clearing the BAM-C cache – If you are having a problem selecting legacy PCTs (during a transitional period) in a case created before deployment of any revised NSW PCTs, clear your cache in the BAM-C. See Appendix A of this guide for instructions on clearing the cache.

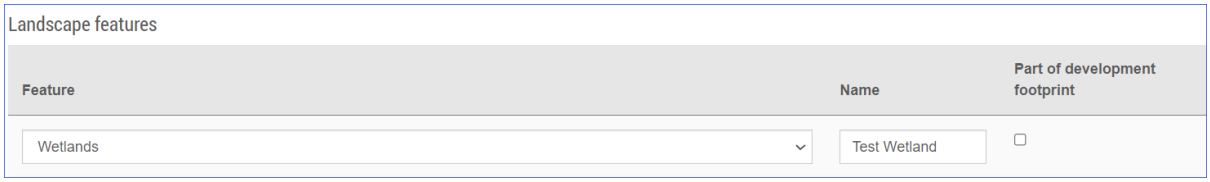
Tip

- If you cannot clear the cache to see the legacy classification in the 'Reference data version' drop-down, contact the BOS Help Desk for assistance.

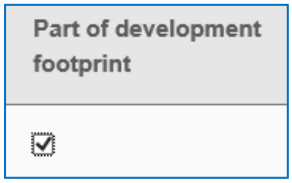
8. The ‘Landscape features’ field can be left blank when no listed landscape features are associated with the site. If a landscape feature is associated with the site, use the landscape ‘Feature’ drop-down to select the type of landscape feature associated with the site.



9. Enter the name of the landscape feature in the ‘Name’ field.

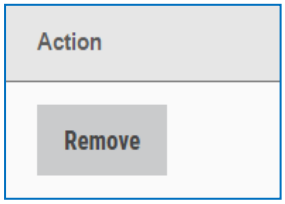


10. Tick the checkbox in the ‘Part of development footprint’ column if the feature is within the development footprint.



11. Click ‘Add another landscape feature’ to accept the entered data. This will add another landscape feature row, which can be left blank if there are no other landscape features.

12. If you need to remove a landscape feature, click ‘Remove’ in the ‘Action’ column.



13. When all required information has been entered, click ‘Next’ to move to Tab 3.

Tip

- Once 'Next' is clicked, the IBRA region for the assessment is locked.
- To change the IBRA region, cancel or exit the assessment before saving and reopen the assessment.
- If the IBRA region is incorrect and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click 'Next' to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

4.3 Vegetation (Tab 3)

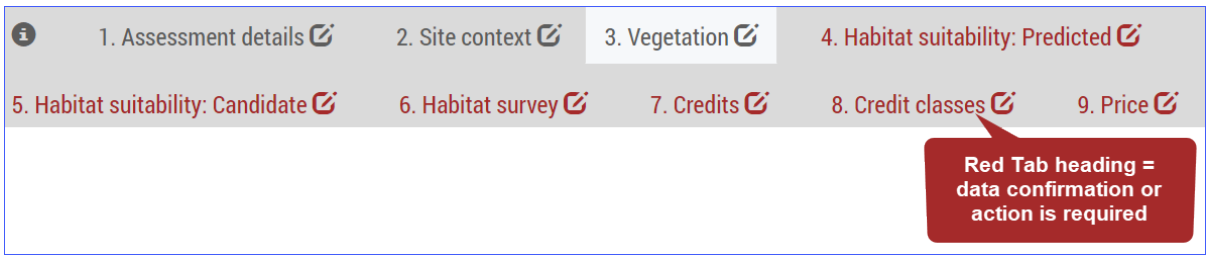
The 'Vegetation' tab is used to record the PCT(s) present on the site and to capture individual plot data that is used to calculate the VI scores for each vegetation zone.

The method for recording PCTs and TECs at a site and calculating current vegetation condition of a site is the same for all assessment types. Refer to Chapter 4 of the BAM 2020 for further information.

4.3.1 Define the PCTs and TECs

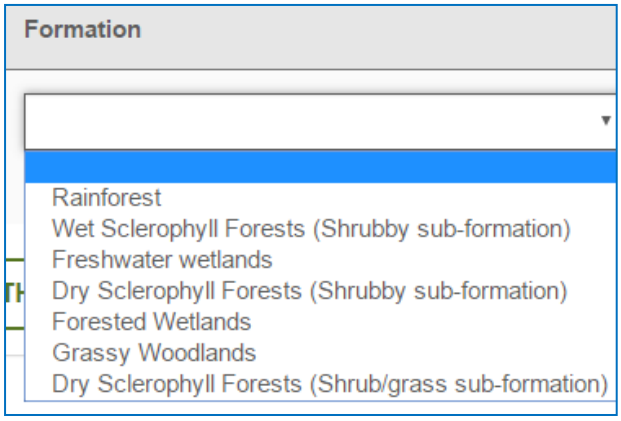
1. The 'Vegetation' tab will be open if 'Next' was clicked on Tab 2. When reopening an assessment with existing information, click on Tab 3 to open it.

2. Note that if any of the tab headings are shaded in red, this indicates that action is required, or information needs to be entered/confirmed on that tab. Remember to click 'Next' to move through the tabs if any changes are made.



3. If the PCT name or number is known, the ‘Plant community type’ field can be added as the first step, which will automatically populate the formation and class fields.

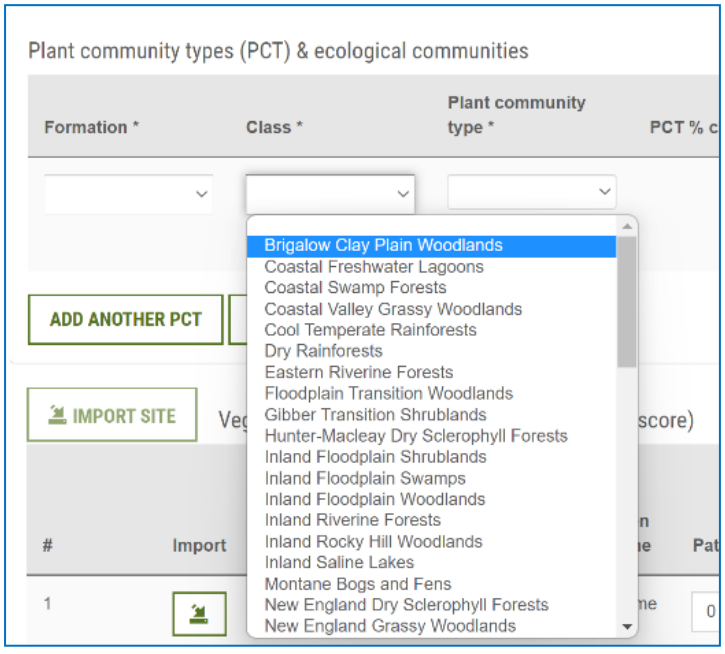
   If the PCT name or number is not known, use the ‘Formation’ drop-down to select the formation for the required PCT.



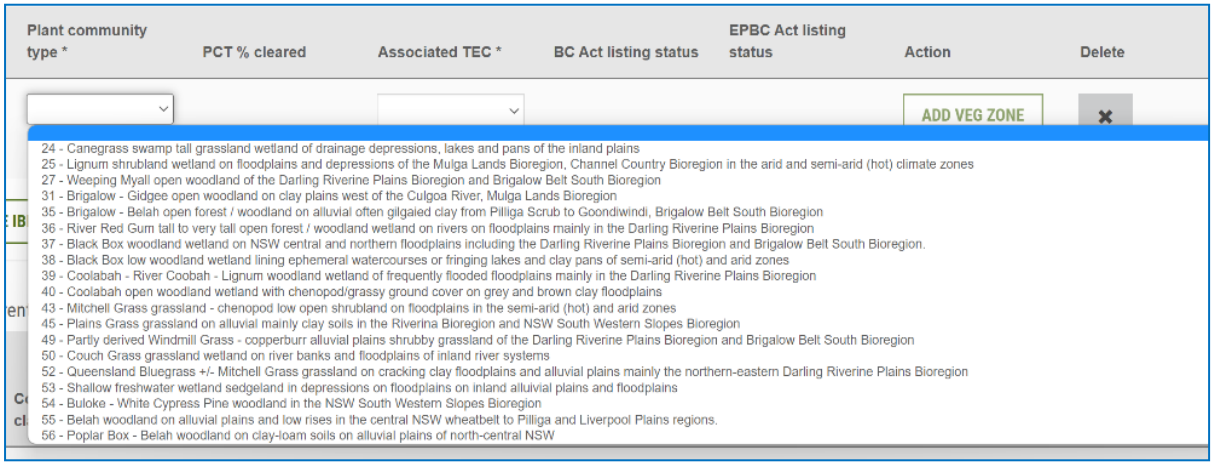
Tip

- If the PCT or number is known, enter this first and the formation and class fields will be populated automatically.
- Only PCTs associated with the IBRA region and IBRA subregion will be available.
- Refer to the webpage *About BioNet Vegetation Classification* (Veg-C) for further information about PCTs and TECs (see Appendix B).

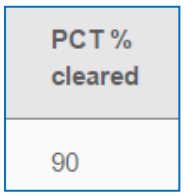
4. Use the ‘Class’ drop-down (if PCT name or number is not known) to select the required class. The classes available will be filtered to those associated with the formation if a formation was selected in step 3.



5. Use the ‘Plant community type’ drop-down to select the required PCT. The PCTs available will be filtered to those associated with the class if a class was selected in step 4.



6. The % cleared value for the PCT will be displayed under ‘PCT % cleared’. The % cleared value is an estimate of the extent to which a PCT has been cleared since European settlement and is used when assigning a non-threatened PCT to an offset trading group (OTG).



Tip

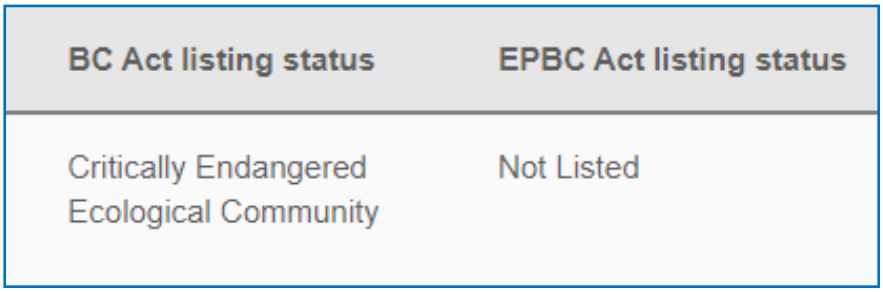
- Detailed information on each PCT and its geographic distribution is available as a downloadable and refreshable Power Query from *NSW BioNet Resources* (see Appendix B), ‘BioNet Vegetation Classification’ > ‘Power Queries’ > ‘Plant Community Type data’.
- Refer to the *Offset rules and ecosystem credits* guidance for more information on % cleared and OTGs (see Appendix B).

7. Use the ‘Associated TEC’ drop-down to select the relevant TEC. If no TEC is associated with the PCT, select ‘Not a TEC’.

Tip

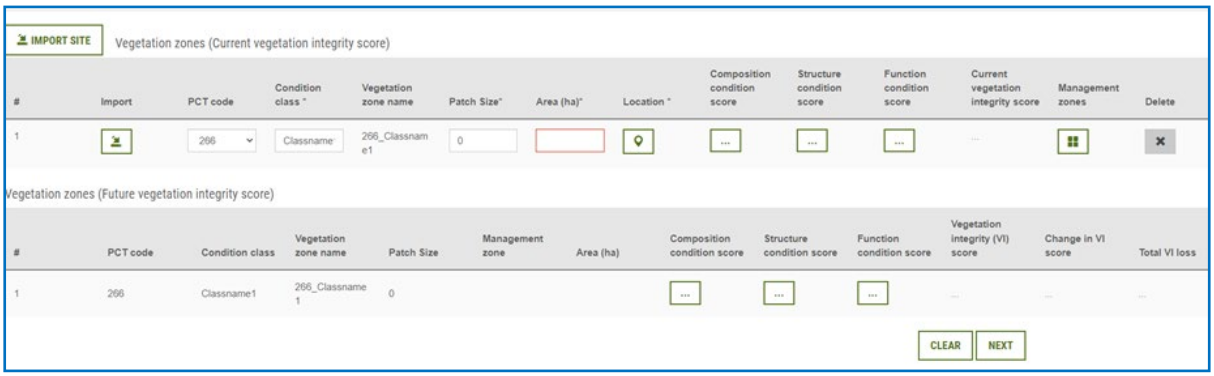
- Only TECs associated with the selected PCT (in BioNet) are shown in the drop-down. Where a TEC is present at the site but is unavailable in the drop-down list, it may be because the TEC is not associated with the IBRA region and IBRA subregion chosen.
- A detailed description of each TEC is available through the *Threatened biodiversity profile search* app (see Appendix B).
- Detailed information on the PCT to TEC associations and the applicable subregions is available as a downloadable and refreshable Power Query from the *NSW BioNet Resources* webpage (see Appendix B). 'BioNet Vegetation Classification' > 'Power queries' > 'Threatened Ecological Community to Plant Community Types (PCT) Association data'.
- To request a review of a TEC association, contact the BOS Help Desk.

8. The state and Commonwealth listing status of a TEC will be displayed under the 'BC Act listing status' and 'EPBC Act listing status' headings, respectively.



9. Click 'Add veg zone'.

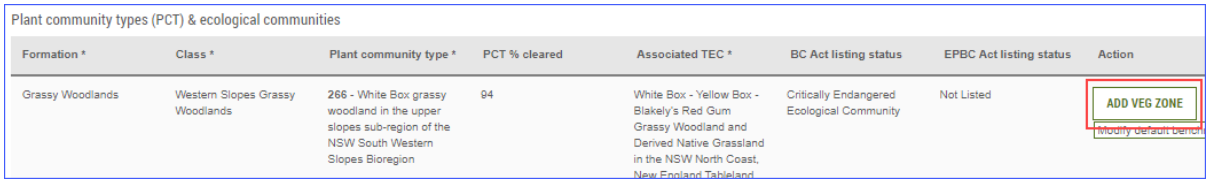
10. A vegetation zone record will be added to the following sections:
    - 'Vegetation zones (Current vegetation integrity score)'
    - 'Vegetation zones (Future vegetation integrity score)'.



Tip

- Adding a unique condition class name to each vegetation zone will help you distinguish the vegetation zones throughout the assessment, especially when both a TEC and non-TEC have been identified on site for the same PCT.
- The future VI score fields display the remaining VI values after the development or clearing has occurred at a site. Edit this section only if partial loss of VI is occurring, rather than total loss.

11. For PCTs with multiple vegetation zones, click ‘Add veg zone’ beside the applicable PCT to add another vegetation zone.



12. A zone number will be generated for each vegetation zone and the relevant PCT number for each record displayed.

13. Click ‘Add another PCT’ (if required) and repeat the above steps for additional PCTs.

14. If the required PCT is missing from the PCT list, click ‘Search PCT outside IBRA’ and enter the name or PCT number to search and then select the PCT. Repeat the above steps for adding vegetation zones.

Tip

- You can only add PCTs that are associated with the selected IBRA region when you use the 'Add Another PCT' button.
- With I 'Search PCT outside IBRA' button you can add any approved PCT, not only those associated with the selected IBRA region.
- Some PCTs have no (or incomplete) benchmarks in Veg-C. For these PCTs, an error will be displayed, and the PCT cannot be used in the assessment.

15. To delete a PCT or a vegetation zone click the button on the right under 'Delete'.

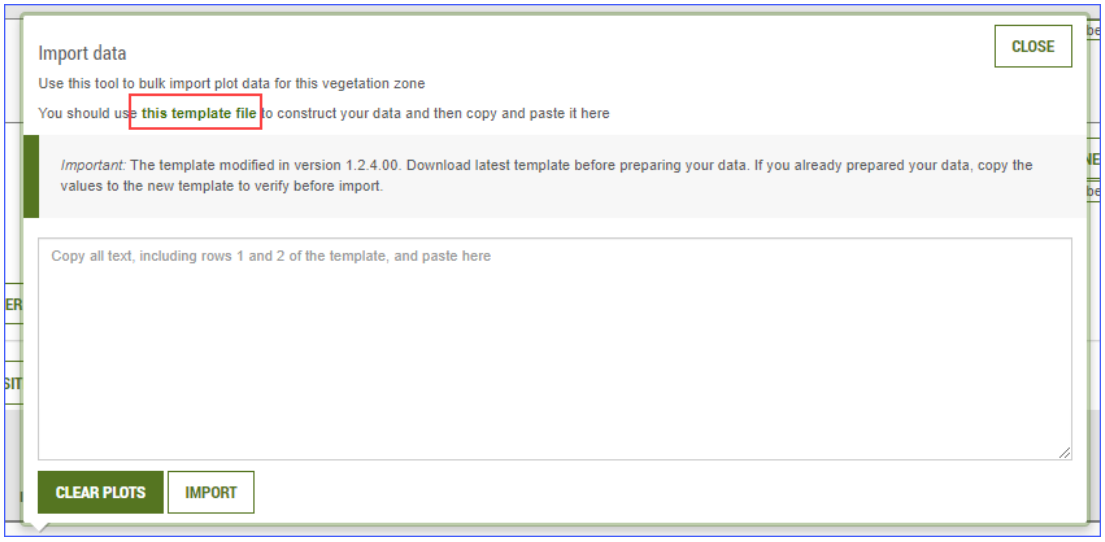
Tip

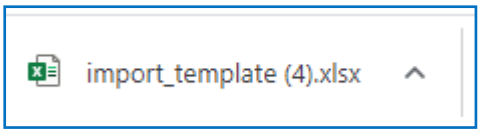
- Vegetation zone and site data can be imported into the BAM-C in CSV file format (Subsection 4.3.2) or added manually (Subsection 4.3.3). See below for instructions.

4.3.2 Import vegetation zones

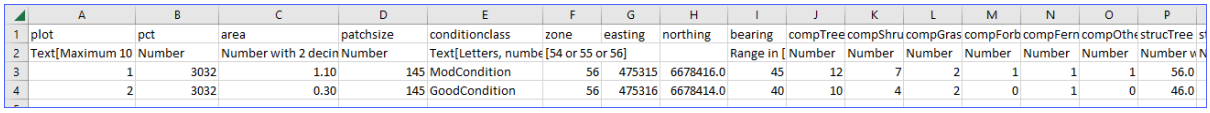
1. To import vegetation zone data, click the import icon beside the vegetation zone.

2. Download the CSV template by selecting 'this template file' in the import pop-up and an excel import data template will become available.



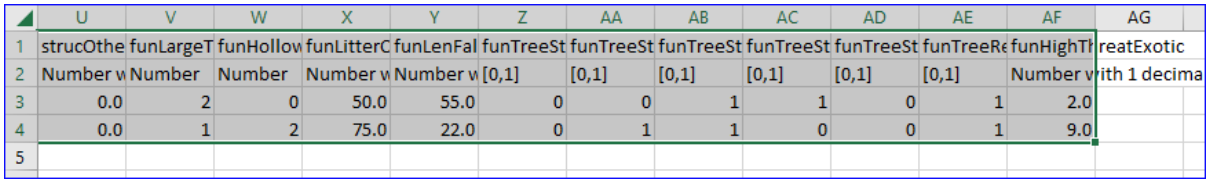


3. Open and populate the template with observation values and save the template:
   - row 1 of the template is reserved for headers
   - row 2 of the template is reserved for example data
   - users must enter plot data into the template from row 3 onwards.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShru	compGras	compForb	compFern	compOthe	strucTree
2	Text[Maximum 10	Number	Number with 2 decin	Number	Text[Letters, numbe	[54 or 55 or 56]			Range in [	Number	Number	Number	Number	Number	Number	Number w
3	1	3032	1.10	145	ModCondition	56	475315	6678416.0	45	12	7	2	1	1	1	56.0
4	2	3032	0.30	145	GoodCondition	56	475316	6678414.0	40	10	4	2	0	1	0	46.0

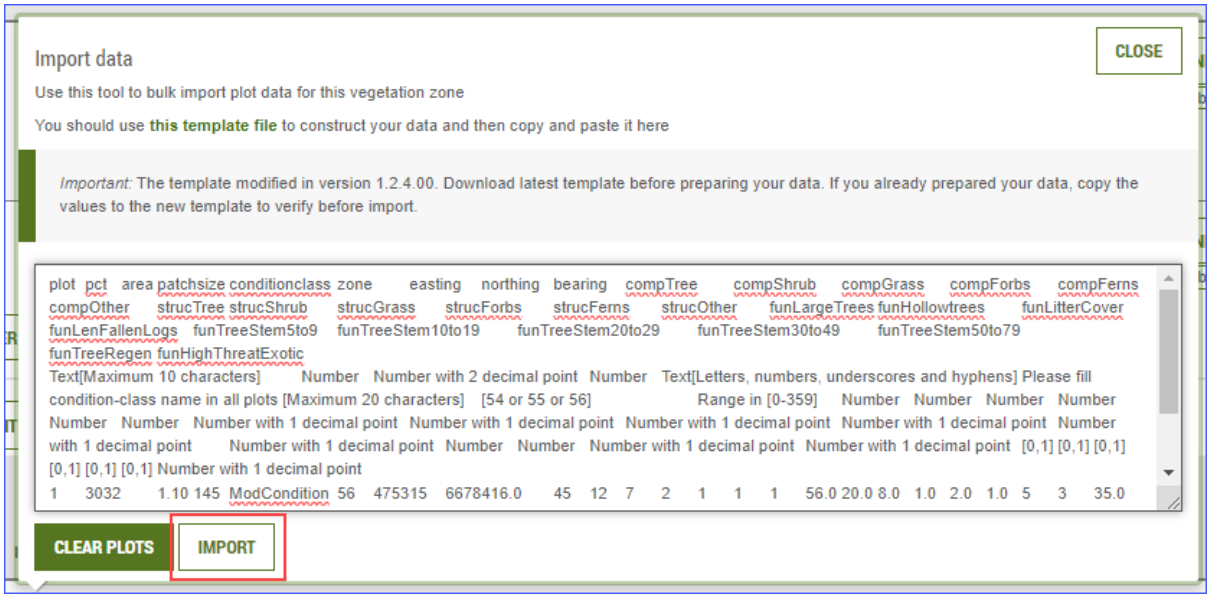
4. Select and copy all column headings in rows 1 and 2 and the data from row 3 (and onwards if there is more than one plot). Make sure no blank columns or rows are selected.



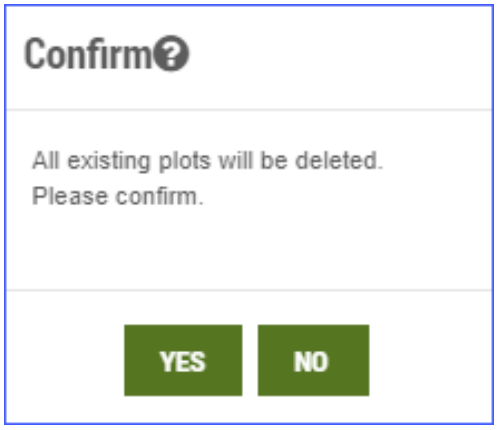
	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1	strucOthe	funLargeT	funHollow	funLitterC	funLenFal	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeRe	funHighTh	reatExotic
2	Number w	Number	Number	Number w	Number w	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	Number w	ith 1 decima
3	0.0	2	0	50.0	55.0	0	0	1	1	0	1	2.0	
4	0.0	1	2	75.0	22.0	0	1	1	0	0	1	9.0	
5													

5. Click the import icon to reopen the 'Import data' pop-up (if not already open).

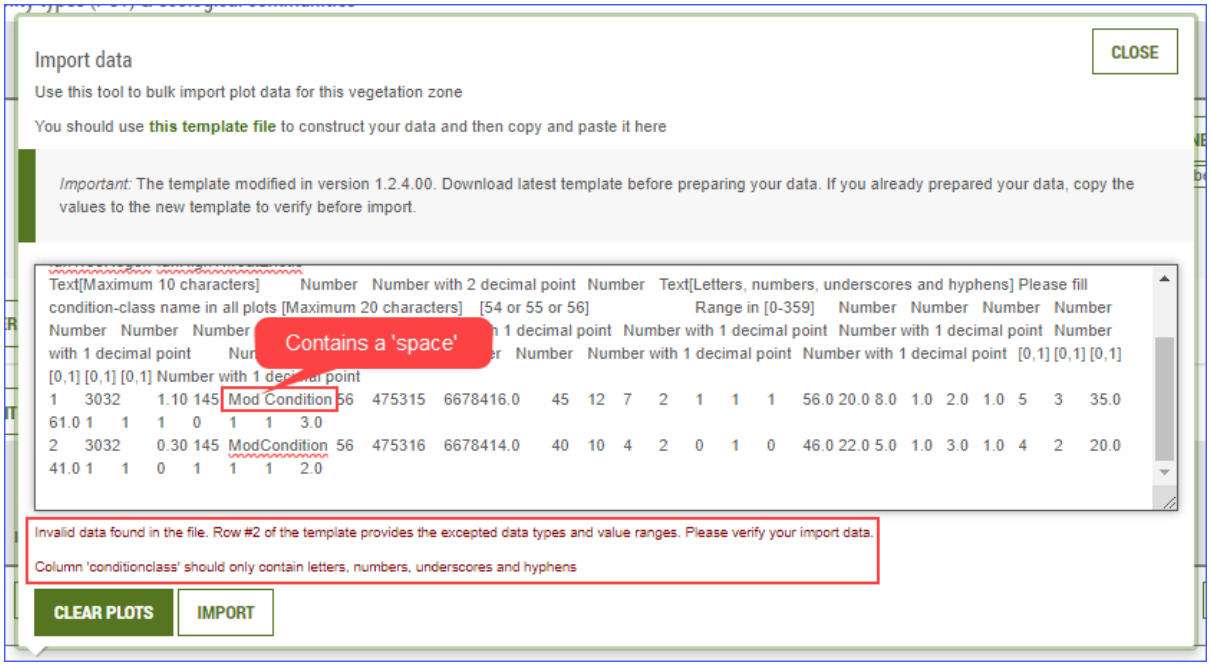
6. Paste the copied data from the template into the 'Import data' pop-up and click 'Import'.



7. A pop-up will open asking you to confirm that all existing plots will be deleted. Click 'Yes' to delete any previous plot data or 'No' to cancel and retain the existing plot data.

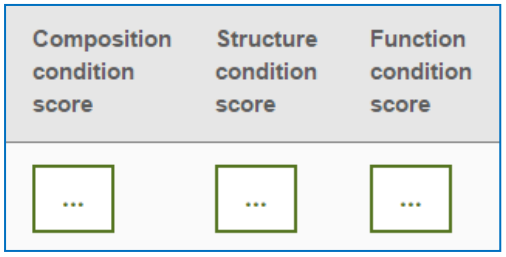


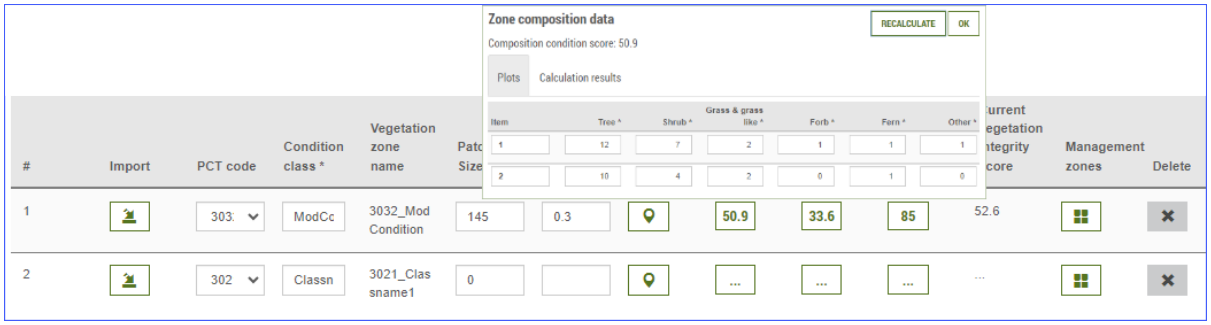
8. If the import was not successful, or only partially successful, the ‘Import data’ pop-up will display an error message. Correct the error(s) in the CSV file, then copy and paste the corrected data, and re-import.



9. Click ‘Close’ to close the pop-up once the data has imported.

10. The data will be imported into the relevant condition score pop-up fields and the scores will be calculated automatically. The condition score fields for each condition attribute will change from showing no score (indicated by an ellipsis) to showing a numeric score value.





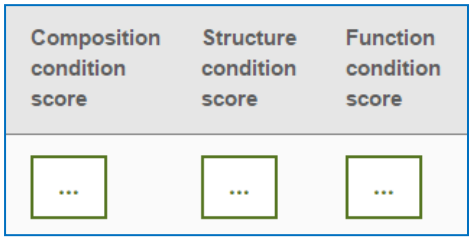
Tip

- If assessing a non-woody PCT, do not specify any values for function attributes other than high threat weed (HTW) cover in the CSV import file.
- When copying the data from the template, ensure no extra columns are selected or an error will occur.

11. To clear imported data, click the ‘Import’ icon to reopen the ‘Import’ pop-up.

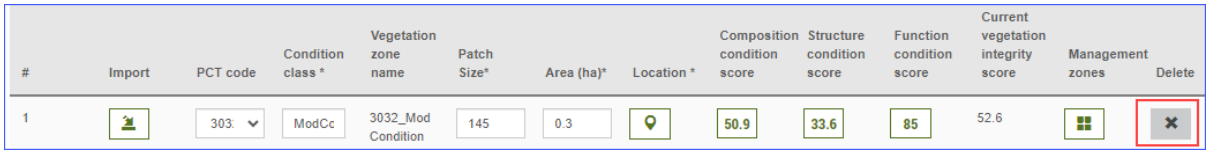
12. Click ‘Clear plots’.

13. All imported data will be cleared and the condition score fields will revert to displaying no score (‘...’).



14. The above process can be performed for all vegetation zones at the site (rather than on a zone-by-zone basis) using ‘Import site’ and following the same process outlined in steps 1–12 above.

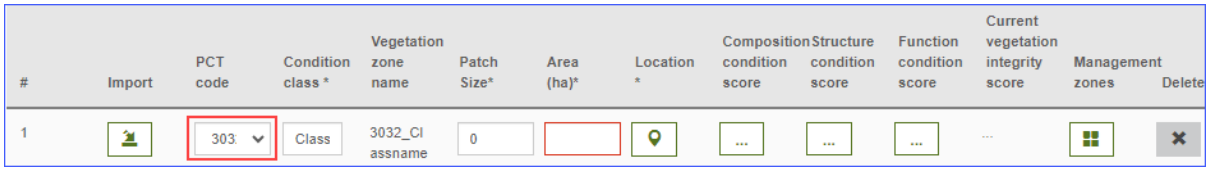
15. Individual zones can be removed by clicking the button on the right under ‘Delete’.



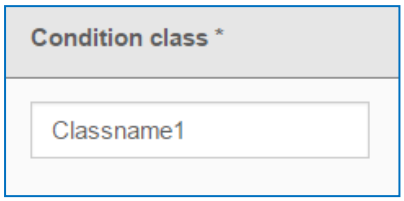
4.3.3 Manually enter vegetation zone data

This section describes how to manually enter the vegetation zone data into the BAM-C to calculate the VI score.

1. The ‘PCT code’ field is populated automatically when ‘Add veg zone’ is clicked.



2. Select ‘Condition class’ and enter a condition class label for the zone. The name must not include spaces, but hyphens or underscores can be used as an alternative (for example, do not enter ‘Mod TEC’; instead use ‘Mod-TEC’ or ‘Mod_TEC’).



Tip

- Zone condition class is solely a label to help identify the zone and does not have any influence on VI or credit calculations.

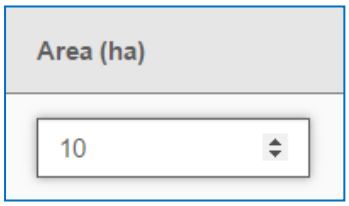
3. A vegetation zone name will be generated automatically based on the condition class and PCT code and displays under the ‘Vegetation zone name’ heading.

4. Select ‘Patch Size’ and enter the relevant patch size area (in hectares) for the zone.

Tip

- The patch size value is used to filter the list of fauna species presented in the predicted and candidate species tabs. Refer to the BAM 2020, Subsection 4.3.2 for more information on patch size.
- Making changes to the patch size value may affect data in the 'Habitat suitability', 'Habitat survey', 'Credits' and 'Credit classes' tabs.

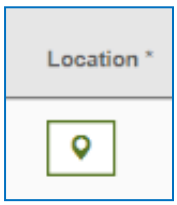
5. Enter the area for the vegetation zone in the 'Area (ha)' field.

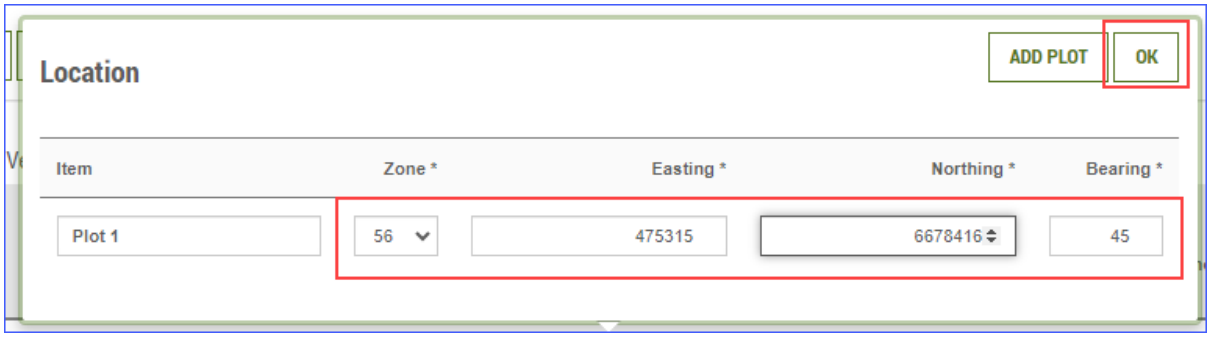


Tip

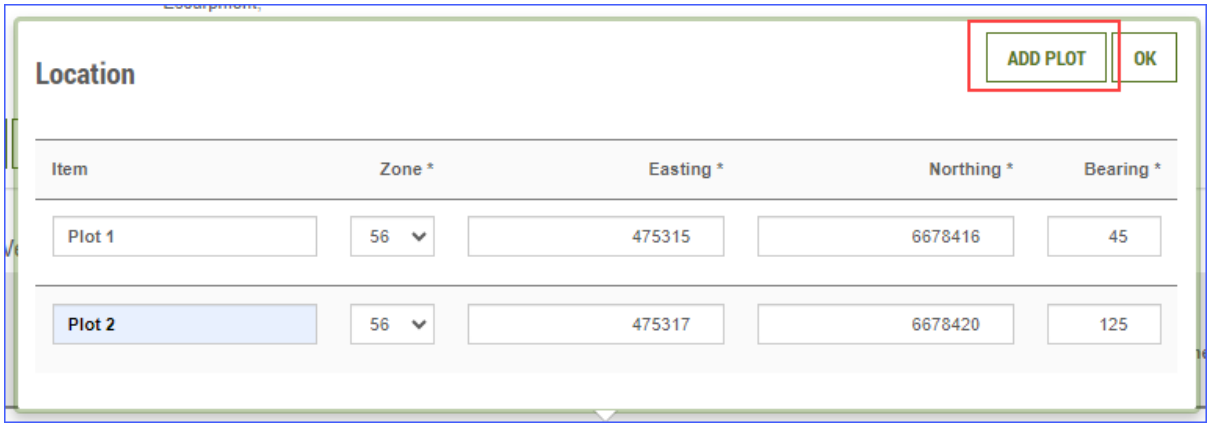
- The area of a vegetation zone will determine the number of plots required. Refer to the BAM 2020, Subsection 4.3.4 (Table 3). The BAM-C automatically adds the number of plots required based on the 'Area (ha)' entered.
- Ensure there is at least one vegetation zone for each PCT. Use the scroll bar to the right of the vegetation zone list to confirm each PCT has a vegetation zone.
- The minimum vegetation zone 'Area (ha)' is 0.01 ha. If a zone is smaller than this, the BAM-C will automatically round it up to 0.01 ha (values of 0.005–0.009 ha will be rounded up). If the area is less than 0.005 ha, consider adding the area to another vegetation zone.
- The 'Patch size' should be equal to or greater than the vegetation zone 'Area (ha)' size.

6. Click the 'Location' icon and add plot location details.

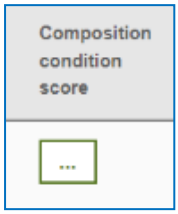




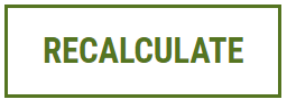
7. If additional plots are required, click ‘Add plot’. Once the required plot data has been added click ‘OK’. Note that adding a plot to the ‘Location’ field will also add a plot to the ‘Composition’, ‘Structure’ and ‘Function’ condition score fields.



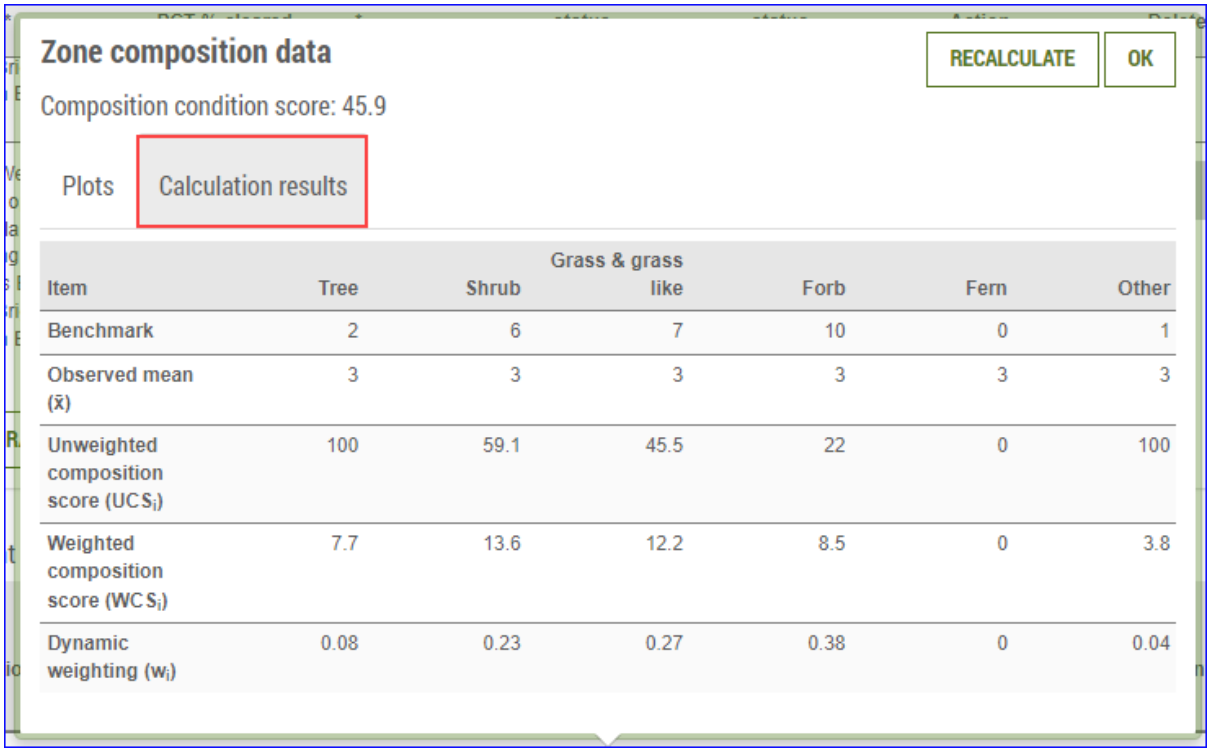
8. Select ‘Composition condition score’ and enter composition data.



9. Click ‘Recalculate’ to update calculation of the composition score for the zone, or ‘OK’ to update and close the composition score pop-up.



10. Select the ‘Calculation results’ tab on the ‘Zone composition data’ pop-up to see the underlying data used to calculate the score.



Item	Tree	Shrub	Grass & grass like	Forb	Fern	Other
Benchmark	2	6	7	10	0	1
Observed mean ($\bar{x}$)	3	3	3	3	3	3
Unweighted composition score (UCS_i)	100	59.1	45.5	22	0	100
Weighted composition score (WCS_i)	7.7	13.6	12.2	8.5	0	3.8
Dynamic weighting (w_i)	0.08	0.23	0.27	0.38	0	0.04

11. Click ‘OK ‘.

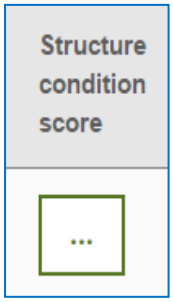
Tip

The following calculations are shown in the composition condition section:

- **Benchmarks** – these values indicate benchmark reference values for the vegetation class/IBRA combination of the zone.
- **Observed mean** – this is the average of observed values entered for all plots for a specific growth form group.
- **Unweighted composition score** – BAM-C calculates and displays the unweighted condition score for the relevant growth form group. This calculation converts observed mean values to continuous unweighted condition scores using a Weibull (continuous probability) distribution.
- **Weighted composition score** – BAM-C calculates and displays the weighted condition score for the relevant growth form group. This calculation applies a dynamic weighting based on the proportional contribution of each growth form group benchmark function to the benchmark total function (sum of benchmark function across all growth form groups).

- **Dynamic weighting** – BAM-C calculates and displays a dynamic weighting based on the proportional contribution of each growth form group benchmark condition attribute to the benchmark total condition (sum of benchmark condition attributes across all growth form groups).
- Weightings for structure and function are calculated using a similar approach. For further information on these weightings and calculations refer to Appendix H of the BAM 2020.
- For further information on determining the VI score refer to Appendix H of the BAM 2020.

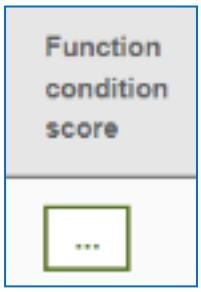
12. Select 'Structure condition score' to open the pop-up and repeat steps 8–11 above to calculate the structure score.

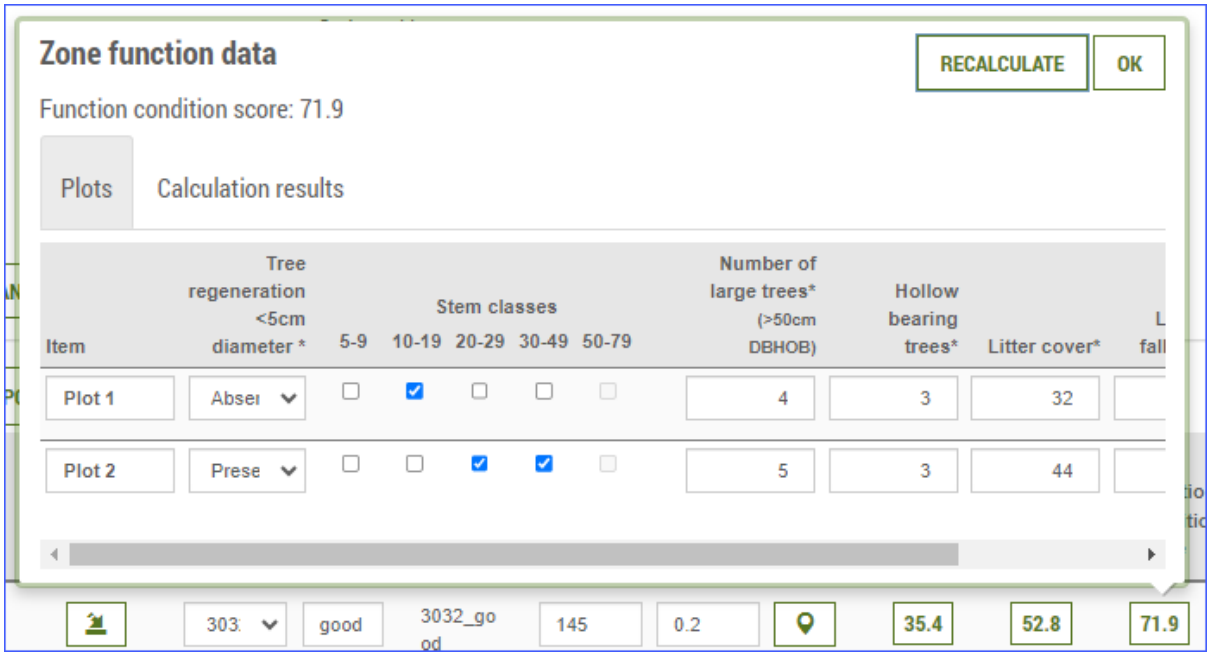


Tip

- The same calculations as those described for composition are performed for structure (see BAM 2020, Appendix H).

13. Select ‘Function condition score’ to open the pop-up and repeat steps 8–11 above to calculate the structure score.





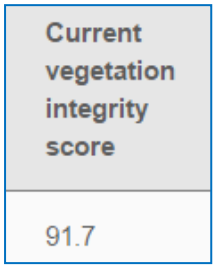
14. Select the ‘Calculation results’ tab to see the underlying data used to calculate the score.

Item	Number of large trees	Litter cover	Length of fallen logs	Stem size class	Tree regeneration <5cm diameter	High threat weed cover
Benchmark	6	81	51	4	Present	
Observed mean ($\bar{x}$)	4	32	9	1	0	9
Weighted function score (WFS_i)	29.5	5.9	1.3	2.2	0	
Weighting (w_i)	0.35	0.15	0.2	0.15	0.15	

Tip

- Some fields in the function tab will be restricted based on the PCT selected. For example, for grassland PCTs the fields relating to trees will be greyed out.
- Weightings for function are static rather than dynamic, as defined in BAM 2020, Appendix H.3.
- Unwanted plot(s) can be removed by deleting them in the 'Location' pop-up. If you delete a plot, the applicable plot data will also be deleted from the composition, structure and function fields.

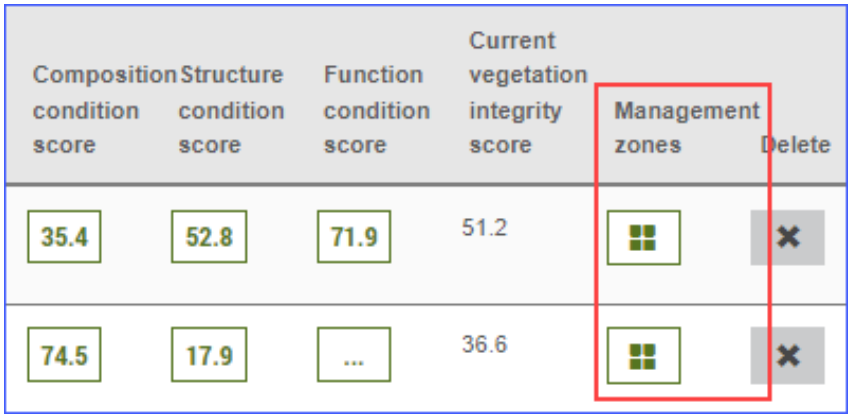
15. After completing the composition, structure and function condition calculations, the current VI score will be displayed.



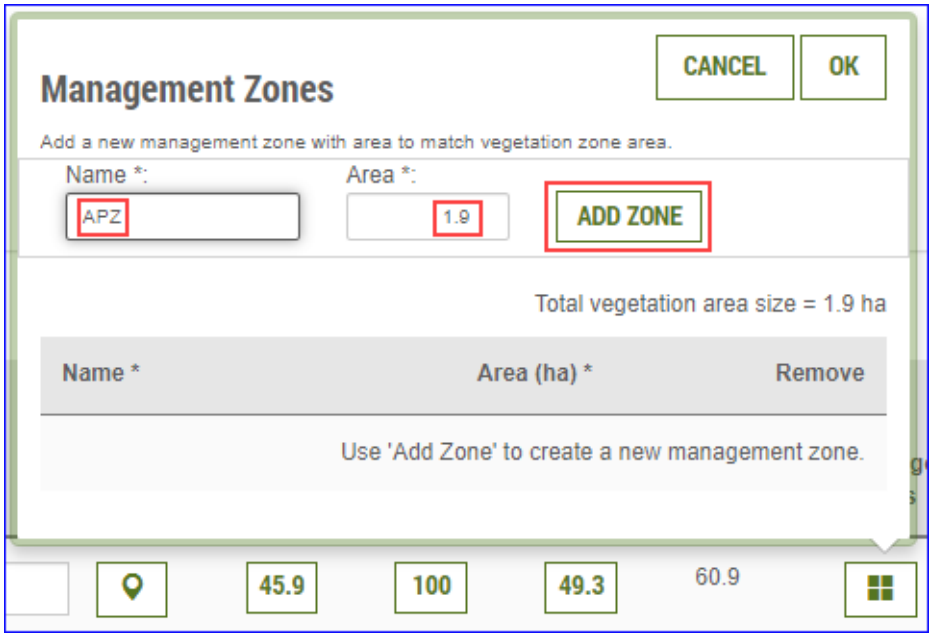
4.3.4 Calculate vegetation integrity for sites with multiple management zones (optional)

Management zones can be added to an assessment to identify areas of a vegetation zone that will have different levels of impact (referred to as partial loss). Refer to Subsection 4.1.2 of the *Biodiversity Assessment Method 2020 Operational Manual – Stage 2* for information on how to generate the VI scores (see Appendix B).

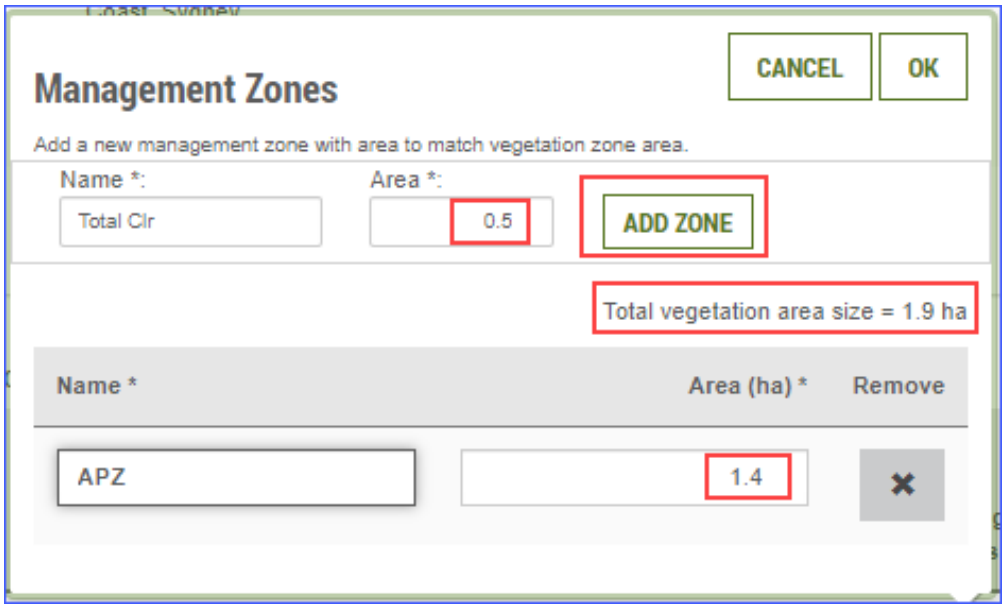
1. To add a management zone to the assessment, click the icon under 'Management zones'.

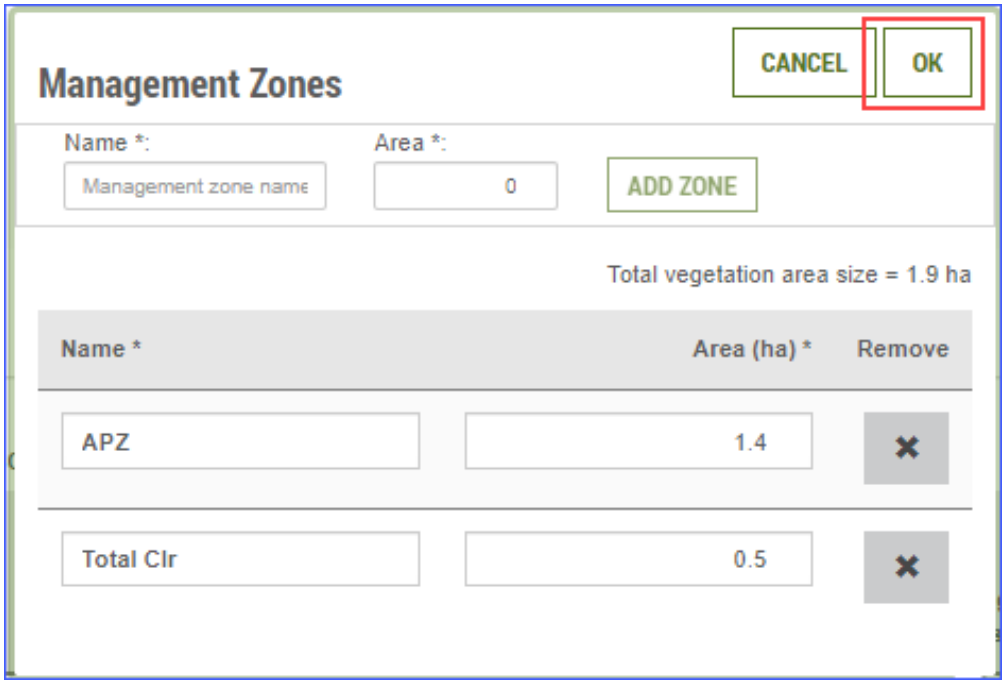


2. The 'Area' value is automatically populated based on the area of the vegetation zone. Add a name, then click 'Add zone' and then 'OK'.

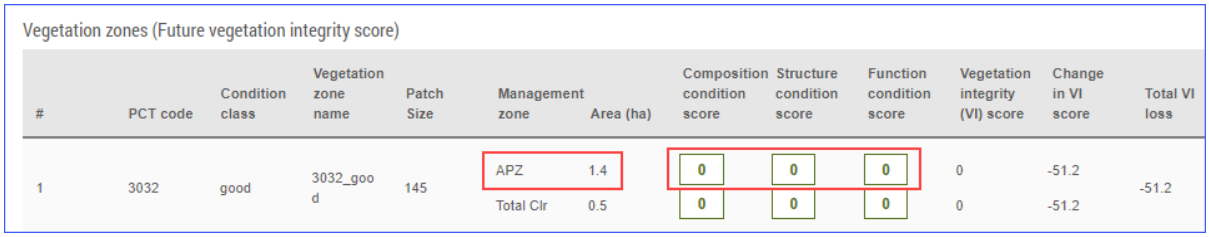


3. The sum of the areas of all management zones in a vegetation zone must equal the 'Area (ha)' field value for the vegetation zone. If you add a second management zone, enter another name and the area, then correct the area entered for the first management zone so the sum of both management zones is equal to the area of the vegetation zone. Click 'Add zone', and then 'OK'.





4. The management zones are displayed in the 'Vegetation zones (Future vegetation integrity score)' section. The composition, structure and function scores can be modified (from zero) for the management zone where only partial loss will occur.

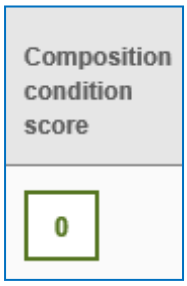


4.3.5 Calculate the future vegetation integrity score

In the 'Vegetation zones (Future vegetation integrity score)' section, 'Composition condition score', 'Structure condition score', 'Function condition score' and 'Vegetation integrity (VI) score' default to a score of zero.

The VI score is an estimate of the future condition of the site when compared to the benchmark score. For any area where partial loss (not full loss) is expected to occur, the future VI score can be modified from zero to display the expected VI score after development/clearing. Refer to Subsection 4.1.2 of the *Biodiversity Assessment Method 2020 Operational Manual – Stage 2* for information on how to generate future VI scores.

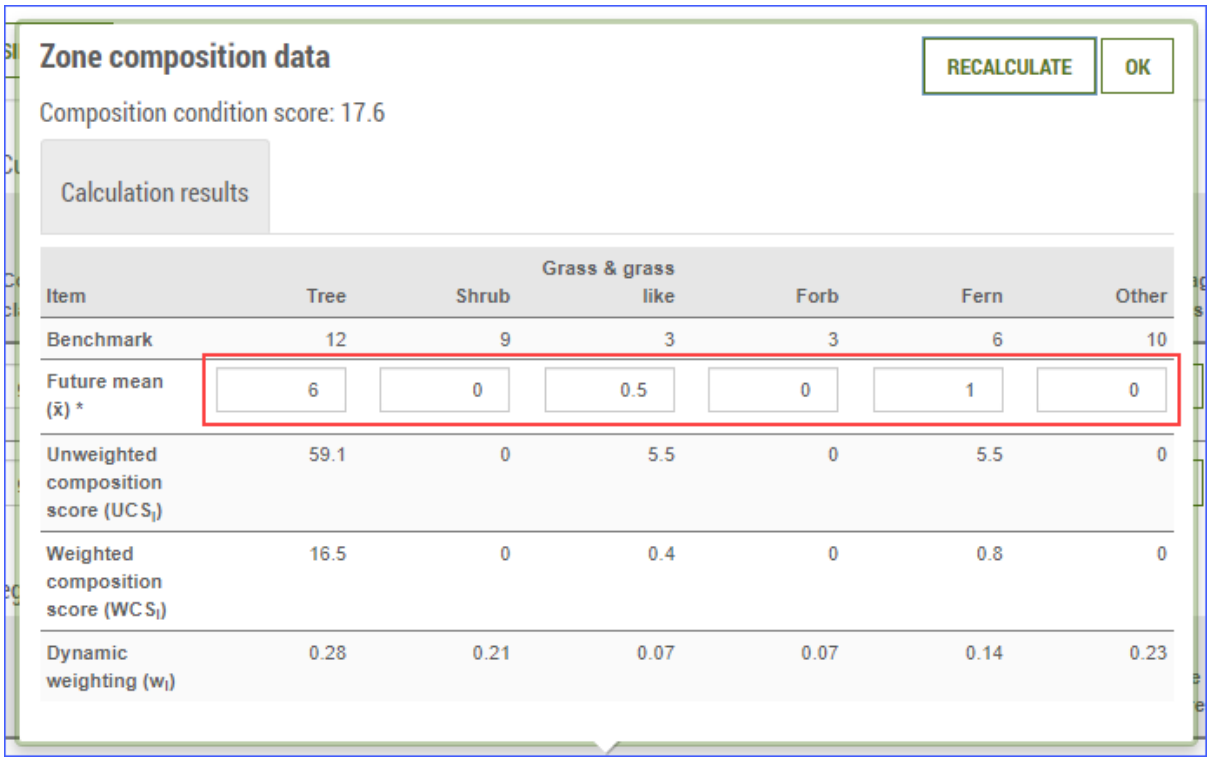
1. To enter an expected future condition score to reflect partial loss of VI, select the 'Composition condition score' field.



Tip

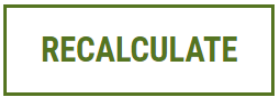
- Unless a partial loss of VI is assumed, there is no need to enter data in the 'Vegetation Zones (Future vegetation integrity score)' section. The BAM-C assumes a zero value for future observations.

2. Enter a value greater than zero in the relevant 'Future mean ($\bar{x}$)' fields.



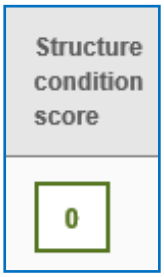
Item	Tree	Shrub	Grass & grass like	Forb	Fern	Other
Benchmark	12	9	3	3	6	10
Future mean ($\bar{x}$) *	6	0	0.5	0	1	0
Unweighted composition score (UCS_l)	59.1	0	5.5	0	5.5	0
Weighted composition score (WCS_l)	16.5	0	0.4	0	0.8	0
Dynamic weighting (w_l)	0.28	0.21	0.07	0.07	0.14	0.23

3. Click 'Recalculate' to prompt calculation of the composition score for the zone.

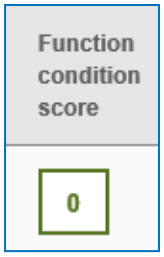


4. Click 'OK'.

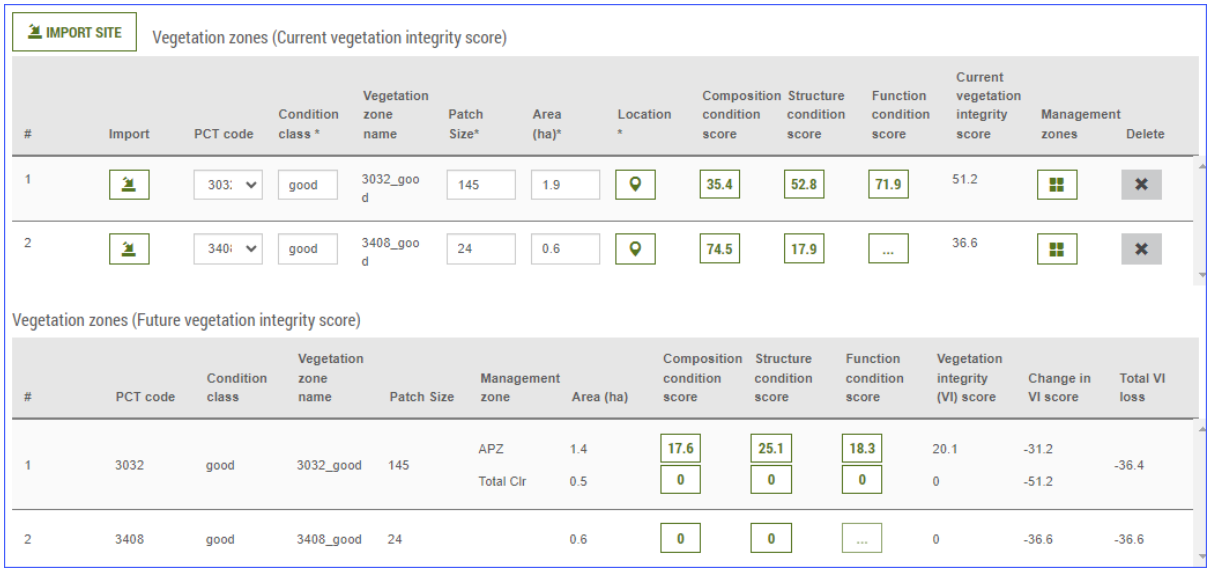
5. To enter an expected future condition score to reflect partial loss of VI for structure condition, select the ‘Structure condition score’ field and follow steps 2–4 above.



6. To enter an expected future condition score to reflect partial loss of VI for function condition, select the ‘Function condition score’ field and follow steps 2–4 above.



7. After completing the composition, structure and function condition calculations, the BAM-C will display the future VI score and the change in VI score (the difference between the current and future VI scores).



8. When all required information has been entered, click ‘Next’ to move to Tab 4.

Tip

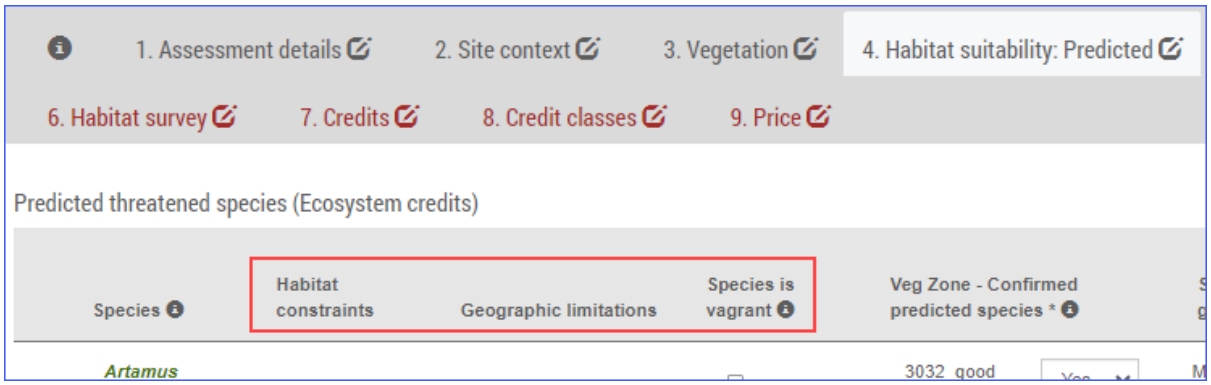
- Save your assessment regularly to ensure data is not lost.

4.4 Habitat suitability: Predicted (Tab 4)

The 'Habitat suitability: Predicted' tab is used to confirm the ecosystem credit species that are predicted to occur on or use the site. Ecosystem credit species are threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features, or that have a low probability of detection using targeted surveys. The TBDC identifies the threatened species assessed for ecosystem credits and the BAM-C automatically populates the list of ecosystem credit species. Targeted survey is not required to identify or confirm the presence of ecosystem credit species.

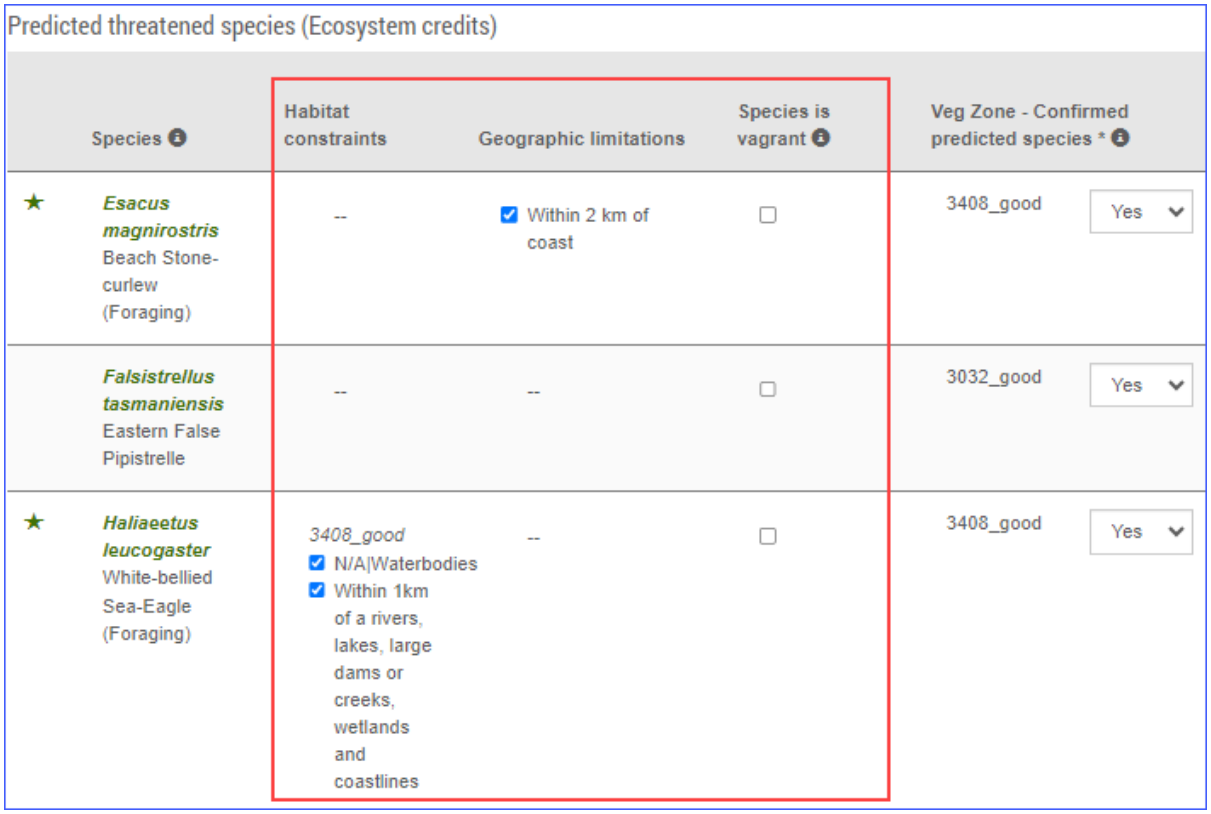
Species are predicted for a vegetation zone based on criteria in BAM 2020 (Subsection 5.2.1, Step 1). The BAM-C displays species satisfying these criteria. You must review the automatically populated information alongside BAM 2020, Subsections 5.2.1–5.2.2 to confirm the predicted species for assessment.

The information required in Tab 4 is displayed below.



1. The 'Habitat suitability: Predicted' tab will be open if 'Next' was clicked on Tab 3. When reopening an assessment with existing information, click on Tab 4 to open it.

2. Review the 'Habitat constraints', 'Geographic limitations' and 'Species is vagrant' checkboxes relevant to each species to confirm that the indicated options are relevant to the site (BAM 2020, Subsections 5.2.1 and 5.2.2):
   a. If the indicated 'Habitat constraints' or 'Geographic limitations' options are not relevant, the box should be unchecked.
   b. In limited circumstances, a species may appear in the populated list due to a vagrant individual recorded in the IBRA subregion. In most cases, vagrant sightings will be marked as such on the BioNet Atlas and will not be included in the BAM-C. If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, the checkbox should be ticked.

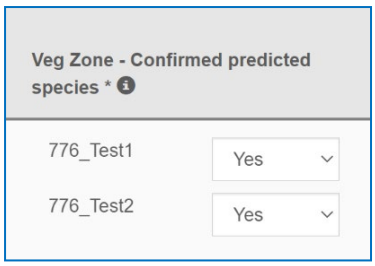


Note: An asterisk beside a species name indicates the species has been added to the assessment, either as a new assessment or because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover or patch size.

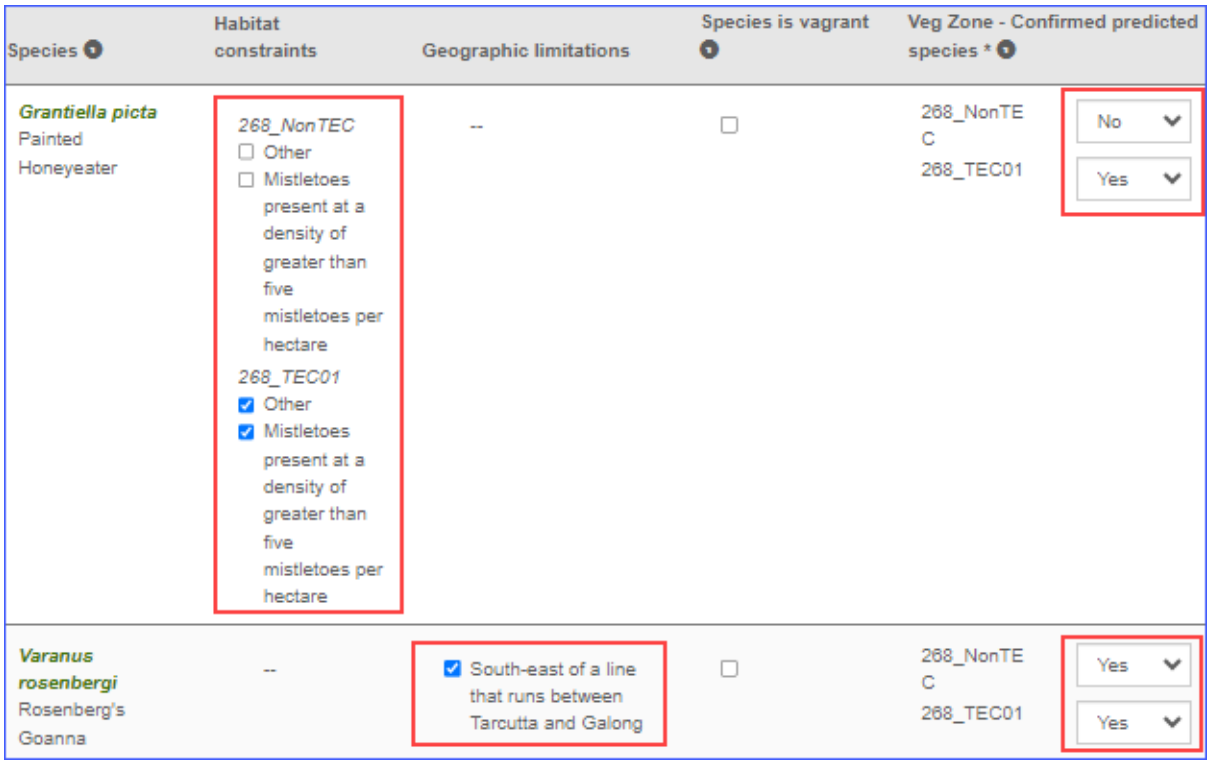
Tip

- Further details on habitat constraints (including the 'other' category) and geographic limitations are on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).
- If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox. Please send supporting justification to the BOS Help Desk so the species can be reviewed.
- Hover over the information icon to see cross-references to information available in the BAM for 'Species is vagrant', 'Veg Zone – Confirmed predicted species' and 'Sensitivity to gain'.

3. The 'Confirmed predicted species' default setting for development/clearing assessments is 'Yes' if:
   a. all indicated 'Geographic limitations' and 'Habitat constraints' remain checked
   b. 'Species is vagrant' is unchecked.



4. If a predicted species has habitat constraint(s) and is associated with more than one vegetation zone, the BAM-C displays a habitat constraint for each zone, allowing you to select the zones the constraint applies to. Any geographic limitation applies to all zones.



Tip

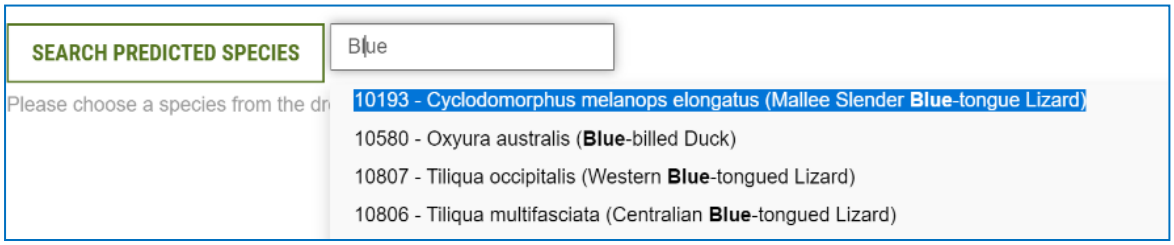
- Confirmed predicted species are assessed for ecosystem credits.

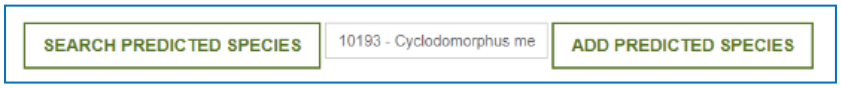
5. The ‘Sensitivity to gain class’, ‘BC Act listing status’ and ‘EPBC Act listing status’ will populate automatically.

Sensitivity to gain class	BC Act listing status	EPBC Act listing status.
High Sensitivity to Gain	Critically Endangered	Critically Endangered
Moderate Sensitivity to Gain	Vulnerable	Not Listed
Moderate Sensitivity to Gain	Vulnerable	Endangered

6. To add an ecosystem credit species not in the BAM-C list, click ‘Search predicted species’ at the bottom of the page, and enter the species’ name or profile ID.

   Any matching species will be presented in a list. Select the species name and click ‘Add predicted species’.





7. When a species is added, an ‘X’ will appear to the left of the species name, indicating this species has been added by the assessor. This species can be removed by clicking on the ‘X’.

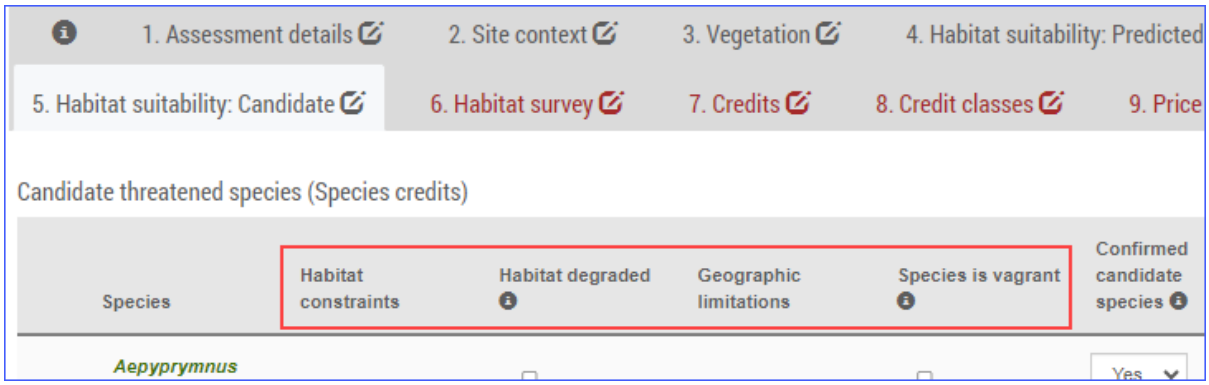
8. When all required information has been entered, click ‘Next’ to move to Tab 5.

4.5 Habitat suitability: Candidate (Tab 5)

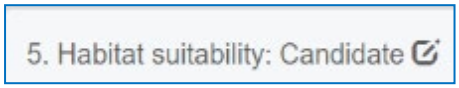
The 'Habitat suitability: Candidate' tab is used to confirm the threatened species credit species that may occur on or use the site. Species credit species are those where the likelihood of occurrence of a species or elements of suitable habitat for that species cannot be confidently predicted by vegetation surrogates and landscape features, and can be reliably detected by survey.

The candidate species list is populated automatically based on criteria in BAM 2020 (Subsection 5.2.1, Step 1). The BAM-C presents species satisfying these criteria. You must review the automatically populated information alongside BAM 2020, Subsections 5.1.2–5.2.3 to confirm the candidate species for assessment.

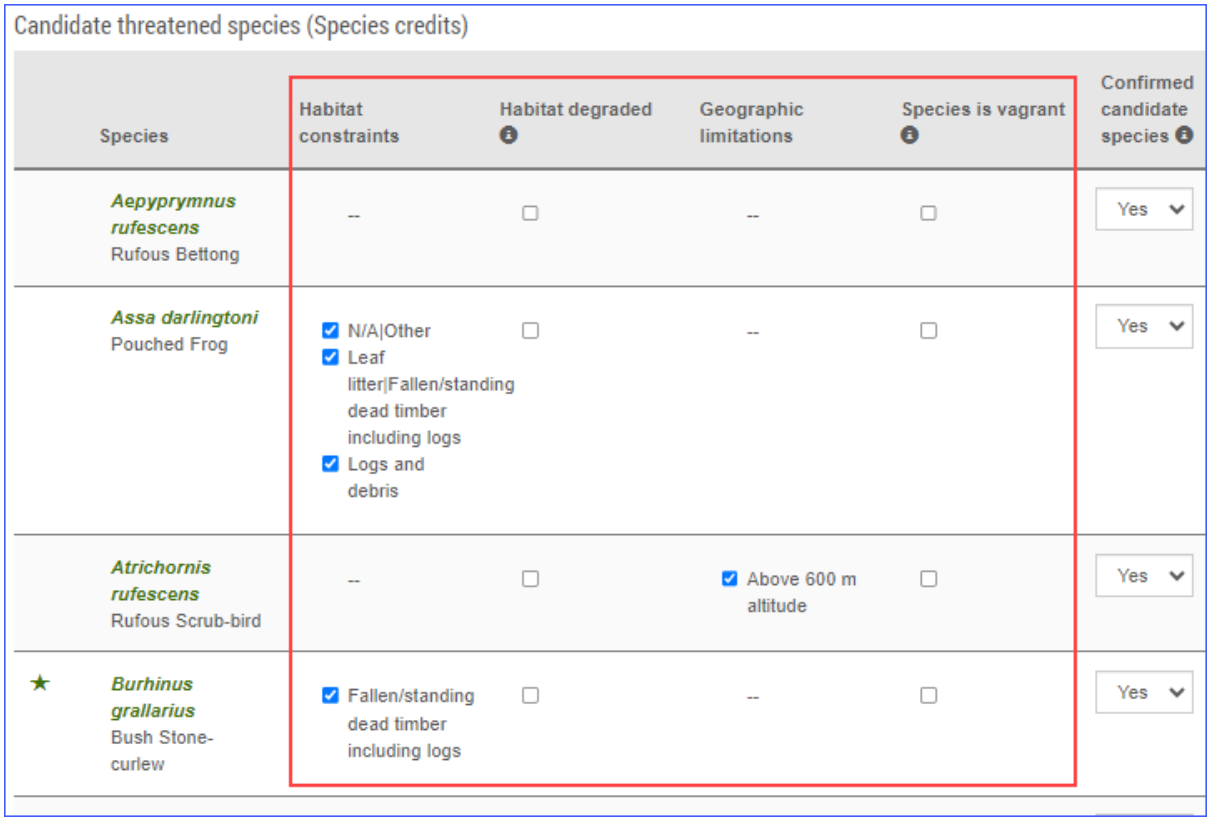
The information required for Tab 5 is displayed below.



1. As 'Next' was clicked after completion of Tab 4 the 'Habitat suitability: Candidate' tab will be open. When reopening an existing assessment, click on Tab 5 to open it.



2. Review the 'Habitat constraints', 'Habitat degraded', 'Geographic limitations' and 'Species is vagrant' checkboxes relevant to each species to confirm that the indicated options are relevant to the site (BAM 2020, Subsections 5.2.1–5.2.3):
   a. If the indicated 'Habitat constraints' or 'Geographic limitations' options are not relevant, the box should be unchecked.
   b. If the 'Habitat degraded' option is relevant, that is, the habitat or microhabitat is degraded to the point that the species is unlikely to use the site, the box should be checked.
   c. In limited circumstances, a species may appear in the populated list due to a vagrant individual recorded in the IBRA subregion. In most cases, vagrant sightings will be marked as such on the BioNet Atlas and will not be included in the BAM-C. If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox.

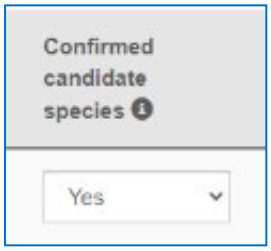


Note: An asterisk beside a species name indicates the species has been added to the assessment because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover or patch size.

Tip

- If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox. Please send supporting justification to the BOS Help Desk so the species can be reviewed.
- Further details on habitat constraints (including the 'other' category) and geographic limitations can be found on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).

3. The 'Confirmed candidate species' default setting for development/clearing assessments is 'Yes' if:
   a. all indicated 'Geographic limitations' and 'Habitat constraints' remain checked
   b. 'Species is vagrant' and 'Habitat degraded' are unchecked.



Tip

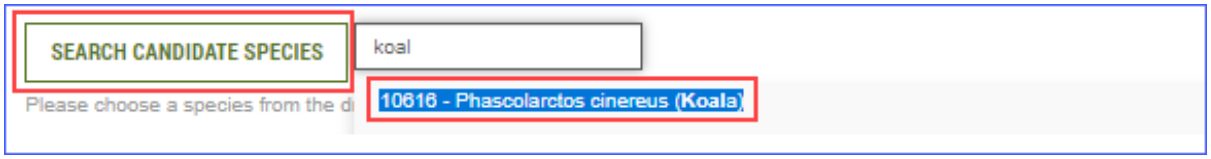
- Confirmed candidate species are assessed for species credits.

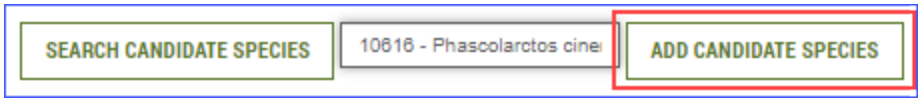
4. The 'Sensitivity to gain class', 'BC Act listing status' and 'EPBC Act listing status' will populate automatically.

Sensitivity to gain class	BC Act listing status	EPBC Act listing status.
High Sensitivity to Gain	Vulnerable	Not Listed
High Sensitivity to Gain	Vulnerable	Not Listed

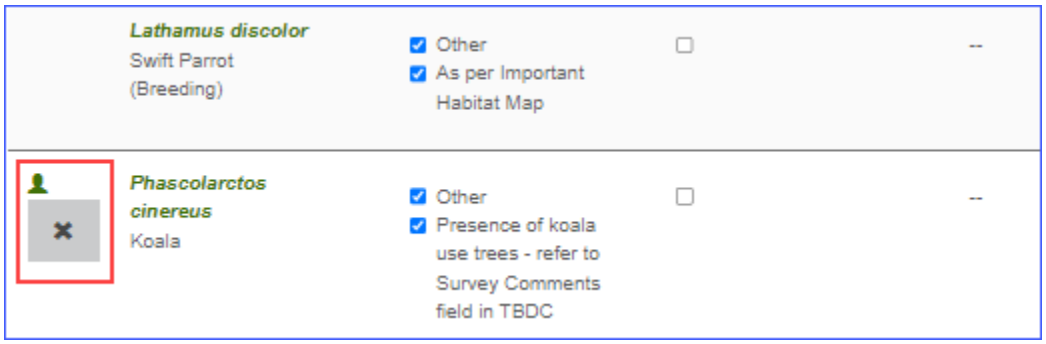
5. To include a species credit species not in the BAM-C list, select 'Search candidate species' at the bottom of the tab page, and enter the species name or profile ID.

   Any matching species will be presented in a list. Select the species name and click 'Add candidate species'.





6. When a species is added, an 'X' will appear to the left of the species name, indicating this species has been added by the assessor. This species can be removed by clicking on the 'X'.

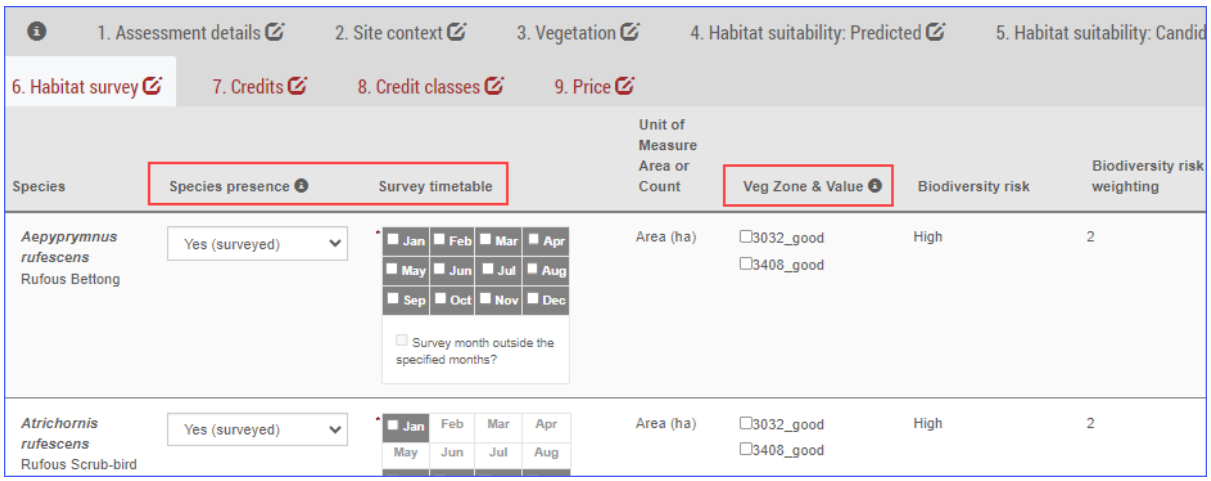


7. When all required information has been entered, click 'Next' to move to Tab 6.

4.6 Habitat survey (Tab 6)

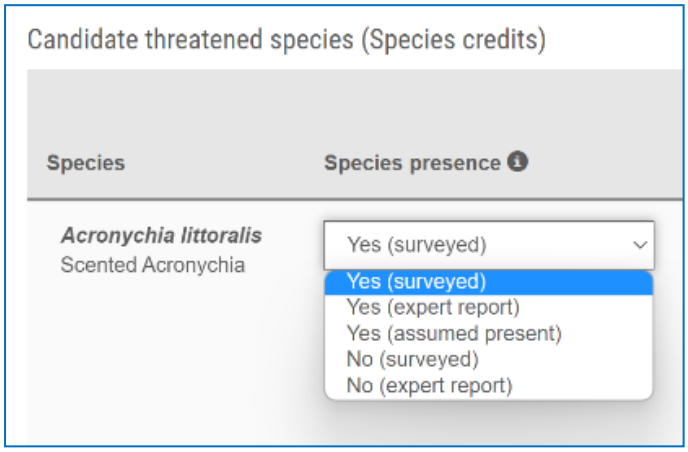
The 'Habitat survey' tab records whether a candidate credit species is present at the clearing/development site (BAM 2020, Subsection 5.2.4 to Section 5.4) and whether its presence/absence was determined by survey, expert report or assumed presence.

The steps to complete Tab 6 are described below.



1. As 'Next' was clicked after completion of Tab 5, the 'Habitat survey' tab will be open. When reopening an existing assessment, click on Tab 6 to open it.

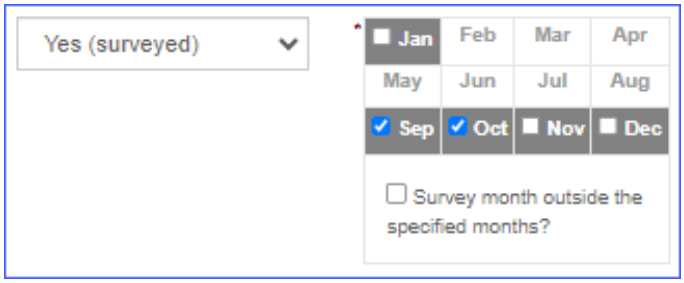
2. The list of candidate species from Tab 5 'Habitat suitability: Candidate' that were confirmed as potentially present based on the habitat and geographic limitations are listed in Tab 6.
3. 'Species presence' automatically defaults to 'Yes (surveyed)'. You can change how presence was confirmed using the drop-down. Options are 'Yes (surveyed)', 'Yes (expert report)' or 'Yes (assumed present)'. Alternatively, if the species is identified as absent based on either survey or an expert report, options are 'No (surveyed)' or 'No (expert report)'.
4. For a small number of species, the habitat constraint information in the TBDC refers to an important habitat map. If one of these species is being assessed, and the assessment area is within a mapped layer identified on an important habitat map, the species must be considered present ('Yes (assumed present)'). If the assessment area does not overlap any mapped layer, the species credit species is considered absent ('No (surveyed)'). Include reference to the important habitat map in the BAR.



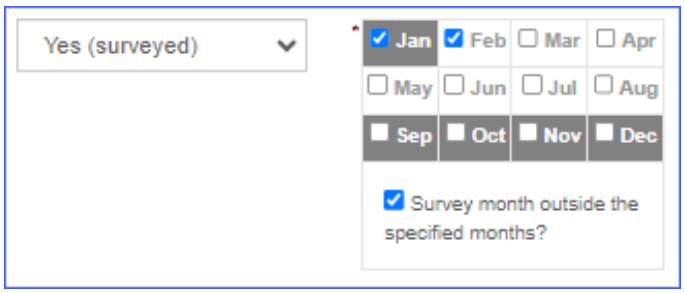
Tip

- Where 'Yes (surveyed)', Yes (expert report)' or 'Yes (assumed present)' has been selected, the Veg Zone and Value' column becomes editable.

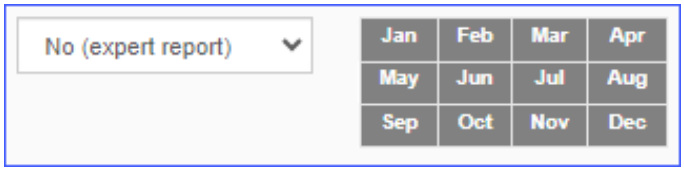
5. If a species was surveyed for, use the checkboxes in the 'Survey timetable' field to indicate when the survey(s) were undertaken. The survey method must comply with any threatened species survey guides or advice that the department has published or provided within the TBDC. In the absence of any guide or advice, use a best-practice method.



6. Only survey during a month specified in the BAM-C unless there is a clear justification to survey outside the specified month(s). If the survey was conducted during a month outside the specified month(s), select 'Survey month outside the specified months', then use the checkboxes to indicate the month(s) that the survey was undertaken.



7. If 'Yes (expert report)', 'Yes (assumed present)' or 'No (expert report)' is selected in the 'Species presence' field, there is no option to select a month.

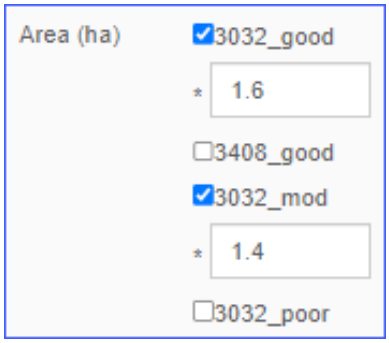


8. The' Unit of Measure Area or Count', 'Biodiversity risk' and 'Biodiversity risk weighting' (BRW) for each species is also displayed.
9. For each species identified as present, tick the checkboxes under 'Veg Zone & Value' for all vegetation zones the species has been identified as being present within.

Tip

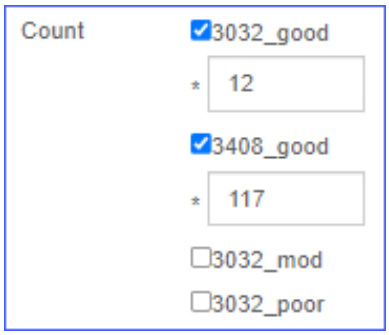
- See BAM 2020, Section 5.4 for further information on BRW.
- A species can be identified as present in multiple vegetation zones.

10. Enter the value that quantifies the species' distribution across the site, noting that the value entered will differ depending on the unit of measure (UoM):
    a. Where the UoM is 'Area (ha)' enter the area of the species polygon within each relevant vegetation zone. The development of the polygon must comply with any threatened species survey guides or advice that the department has published or provided within the TBDC. In the absence of any guide or advice, use best practice.



If the assessment area is within a mapped layer identified on an important habitat map, the species polygon must include the entire area of the zone that is mapped on the important habitat map.

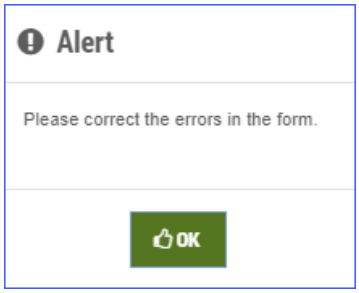
b. Where the UoM is 'Count', enter the number of individuals within the species polygon (an individual is defined in the BAM 2020 as 'a single, mature organism that is a threatened species').



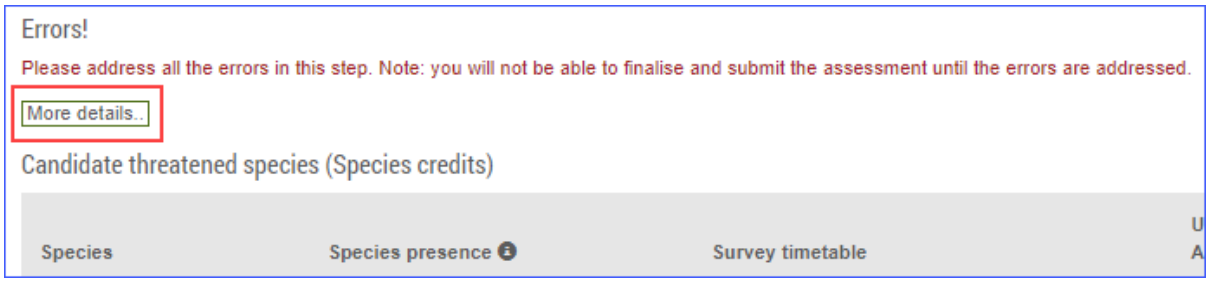
Tip

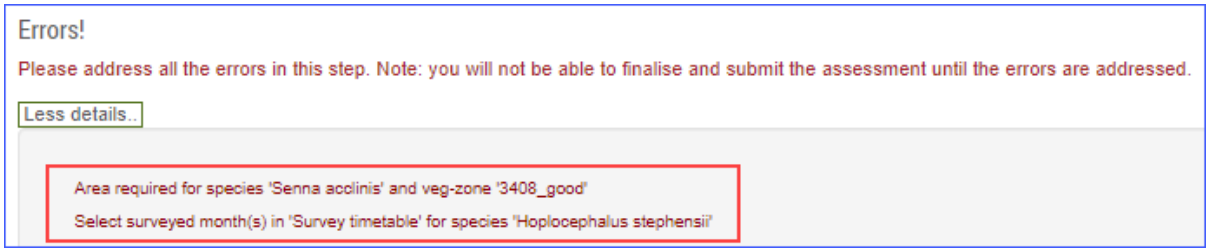
- The minimum area that can be entered in BAM-C is 0.01 ha. If the area is between 0.005 ha and 0.009 ha the BAM-C will round the value up to 0.01 ha.
- Below 0.005 ha, values will be rounded to 0 ha and the assessment will not save. In this scenario either enter the area as 0.01 ha or combine the area with another identified area within the polygon.
- The maximum area that can be entered in BAM-C is the total area of the vegetation zone from Tab 3.

11. When you click 'Next', an alert will display if any required fields have not been completed.



12. Details of any errors will be listed in a message at the top of the page. Click the ‘More details’ box for further details.





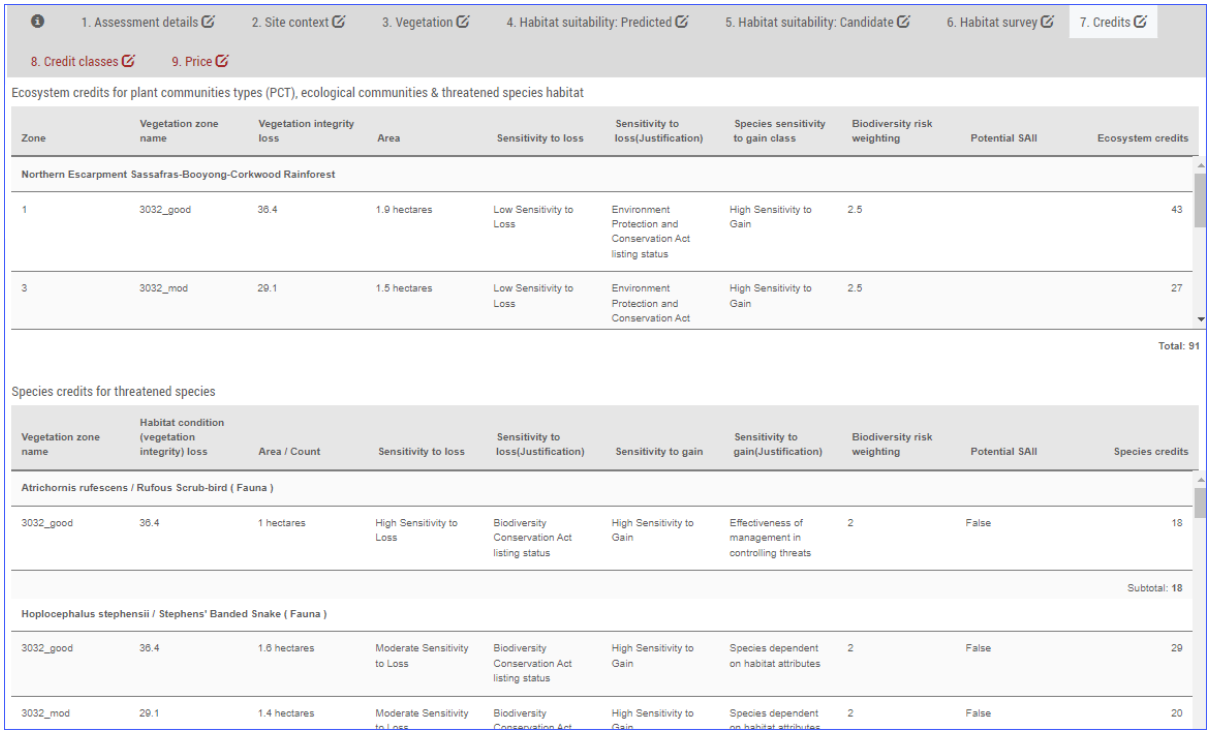
13. When all required information has been entered, click ‘Next’ to move to Tab 7.

4.7 Credits (Tab 7)

The BAM 2020 uses biodiversity credits to measure the residual impacts of a proposal on biodiversity values.

The ‘Credits’ tab summarises the results of calculations of biodiversity credits. No user action is required for this tab.

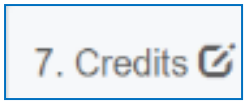
Further details on the calculations performed are in Subsections 4.7.6 and 4.7.7 below.



Tip

- The BAM-C may display a biodiversity credit output for EPBC Act only listed entities; however, biodiversity credits cannot be created or traded under the NSW scheme, and payments cannot be made into the Biodiversity Conservation Fund (BCF) for any EPBC Act only listed entity.
- Contact the Ausralian Government Department of Climate Change, Energy, the Environment and Water as the relevant agency for meeting any requirements of an EPBC Act approval.
- 'EPBC Act only' listed entity means a 'threatened species' or 'threatened ecological community' that is listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) but not listed under the *Biodiversity Conservation Act 2016* (NSW).

As 'Next' was clicked after completion of Tab 6 the 'Credits' tab will be open. When reopening an existing assessment, click on Tab 7 to open it.



4.7.6 Ecosystem credits for PCTs, TECs and threatened species habitat

The first section of Tab 7 displays the ecosystem credits for the PCTs and TECs. The ecosystem credits are calculated by applying the 'Sensitivity to loss' of the PCT or TEC and the highest 'Sensitivity to gain' of the ecosystem credit (predicted) species assumed to be present at Tab 4 ('Veg Zone – Confirmed predicted species' = 'Yes'). Where a PCT or TEC provides no habitat for ecosystem credit species, the BAM-C adopts a 'Sensitivity to gain' of 'Low'. Refer to the BAM 2020, Appendix I for more information.

The BAM-C uses the loss to VI based on the impact, the area of the vegetation zone, the BRW, and a constant to calculate the number of ecosystem credits for each vegetation zone added at Tab 3. Refer to Equation 1 in the BAM 2020 for more information.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss	Area	Sensitivity to loss	Sensitivity to loss(Justification)	Species sensitivity to gain class	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Northern Escarpment Sassafras-Booyong-Corkwood Rainforest									
1	3032_good	36.4	1.9 hectares	Low Sensitivity to Loss	Environment Protection and Conservation Act listing status	High Sensitivity to Gain	2.5		43
3	3032_mod	29.1	1.5 hectares	Low Sensitivity to Loss	Environment Protection and Conservation	High Sensitivity to Gain	2.5		27
4	3032_poor	20.9	0.8 hectares	Low Sensitivity to Loss	Environment Protection and Conservation Act listing status	High Sensitivity to Gain	2.5		10
									Subtotal: **80**
Northern Headland Grassland									
2	3408_good	36.6	0.6 hectares	High Sensitivity to Loss	Biodiversity Conservation Act listing status	High Sensitivity to Gain	2		11

Tip

- Use the scroll bar to see all ecosystem credits.
- See BAM 2020, Sections 5.1 and 5.2 for further information on ecosystem credit species.
- See BAM 2020, Subsections 10.1.1–10.1.2 and 10.2.1 for the calculation method of ecosystem credits.
- See BAM 2020, Appendix I for more information on BRW.

4.7.7 Species credits for threatened species

The second section of Tab 7 displays the species credits for threatened species that have been confirmed present at the site (Tab 6 ‘Species presence’ = ‘Yes’).

For species with a UoM of ‘Area’, the BAM-C uses the loss to VI based on the impact, the area of the vegetation zone, the BRW, and a constant to calculate the number of species credits for each vegetation zone (PCT) added at Tab 3 that is associated with the species. Refer to Equation 2 in the BAM 2020 for more information.

For species with a UoM of ‘Count’, the BAM-C uses the number of individuals and the BRW to calculate the number of species credits. Refer to Equation 3 in the BAM 2020 for more information.

Species credits for threatened species

Vegetation zone name	Habitat condition (vegetation integrity) loss	Area / Count	Sensitivity to loss	Sensitivity to loss(Justification)	Sensitivity to gain	Sensitivity to gain(Justification)	Biodiversity risk weighting	Potential SAII	Species credits
Hoplocephalus stephensii / Stephens' Banded Snake (Fauna)									
3032_good	36.4	1.6 hectares	Moderate Sensitivity to Loss	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Species dependent on habitat attributes	2	False	29
3032_mod	29.1	1.4 hectares	Moderate Sensitivity to Loss	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Species dependent on habitat attributes	2	False	20
									Subtotal: 49
Sophora tomentosa / Silverbush (Flora)									
3032_good	N/A	12 individuals	High Sensitivity to Loss	Biodiversity Conservation Act listing status	High Sensitivity to Gain	Effectiveness of management in controlling threats	2	False	24
3032_poor	N/A	1 individuals	High Sensitivity to Loss	Biodiversity Conservation	High Sensitivity to Gain	Effectiveness of management in	2	False	2

Tip

- Use the scroll bar to see all species credits.
- In some circumstances the TBDC may identify a threatened species that requires assessment for both ecosystem credits and species credits (referred to as dual credit species). For dual credit species, part of the habitat is assessed as a species credit (for example, breeding habitat or land mapped on an important habitat map layer). The remaining habitat for the species is assessed as an ecosystem credit (for example, foraging habitat).
- Equations for the calculation of species credits differ depending on their UoM.
- See BAM 2020, Chapter 5 for further information on species credits.
- See BAM 2020, Subsections 10.1.1, 10.1.3 and 10.2.2 for the calculation method for species credits.
- See BAM 2020, Appendix I for more information on BRW.

No user action is required for Tab 7 and there is no ‘Next’ button. Click on Tab 8 ‘Credit classes’ to open it.

4.8 Credit classes (Tab 8)

The BAM 2020 uses OTGs to offset non-threatened vegetation (PCTs). OTGs are groups of PCTs with the same vegetation class and threat status. Under the like-for-like rules, offsets for impacts to non-threatened vegetation may be met with one or more OTGs that have the same vegetation class with the same or a higher threat status.

Under the like-for-like rules, threatened vegetation (TECs) and threatened species must be offset with the same TEC/species.

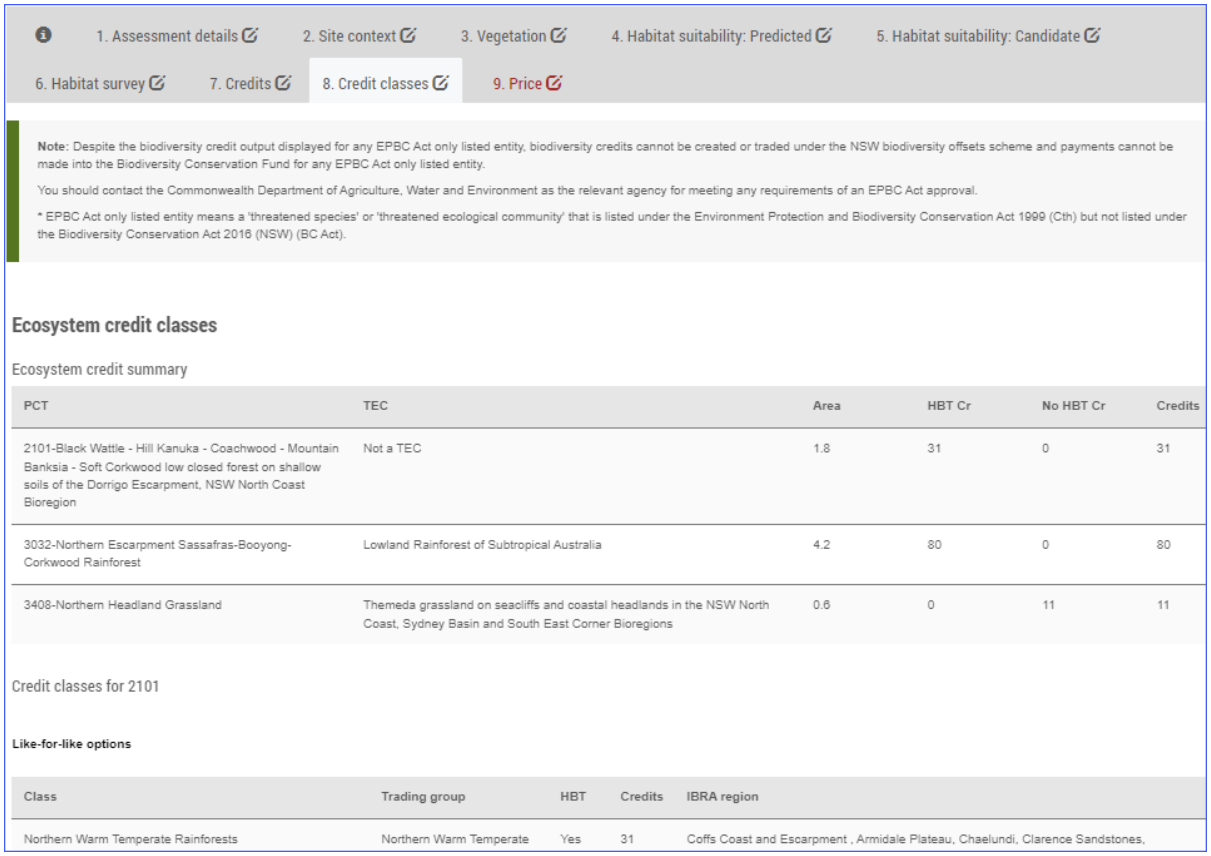
Vegetation containing hollow bearing trees (HBT) must be offset with vegetation containing HBT.

Variation rules may apply.

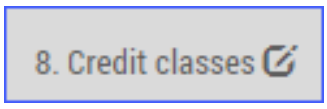
The ‘Credit classes’ tab summarises the ecosystem and species credits and their like-for-like options.

Further details on the information available in Tab 8 are in Subsections 4.8.8 and 4.8.9 below.

No user action is required in this tab.



1. Select the ‘Credit classes’ tab to view ecosystem credit class information and species credit class information.

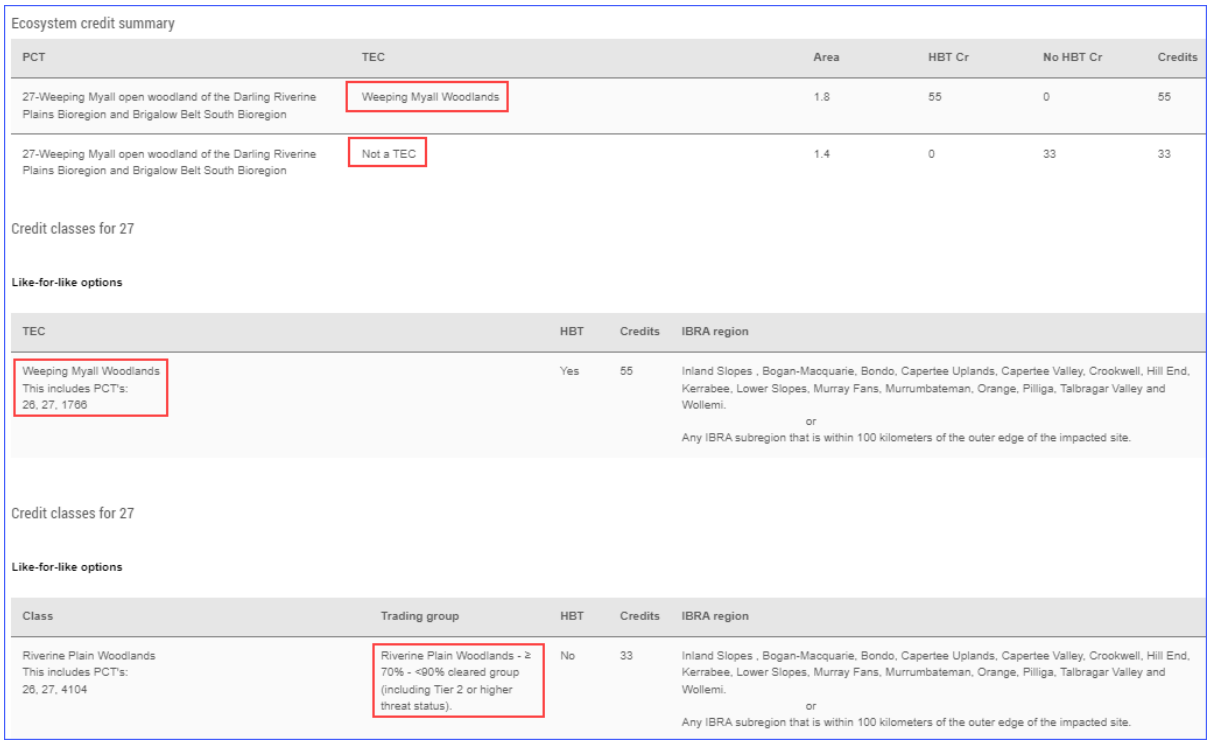


4.8.8 Ecosystem credit classes

The first section of Tab 8 displays a summary of the ecosystem credit classes, whether there is an associated TEC or not, and their like-for-like options based on the PCTs and/or TECs added at Tab 3.

For non-threatened vegetation (‘Not a TEC’), the BAM-C displays the associated vegetation class and lists the PCTs within that class. The BAM-C also displays the associated OTGs and IBRA subregions available for making a like-for-like credit trade.

Refer to the *Offset rules and ecosystem credits* guidance for more information (see Appendix B).



Ecosystem credit summary

PCT	TEC	Area	HBT Cr	No HBT Cr	Credits
27-Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion	Weeping Myall Woodlands	1.8	55	0	55
27-Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion	Not a TEC	1.4	0	33	33

Credit classes for 27

Like-for-like options

TEC	HBT	Credits	IBRA region
Weeping Myall Woodlands This includes PCT's: 26, 27, 1766	Yes	55	Inland Slopes , Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Credit classes for 27

Like-for-like options

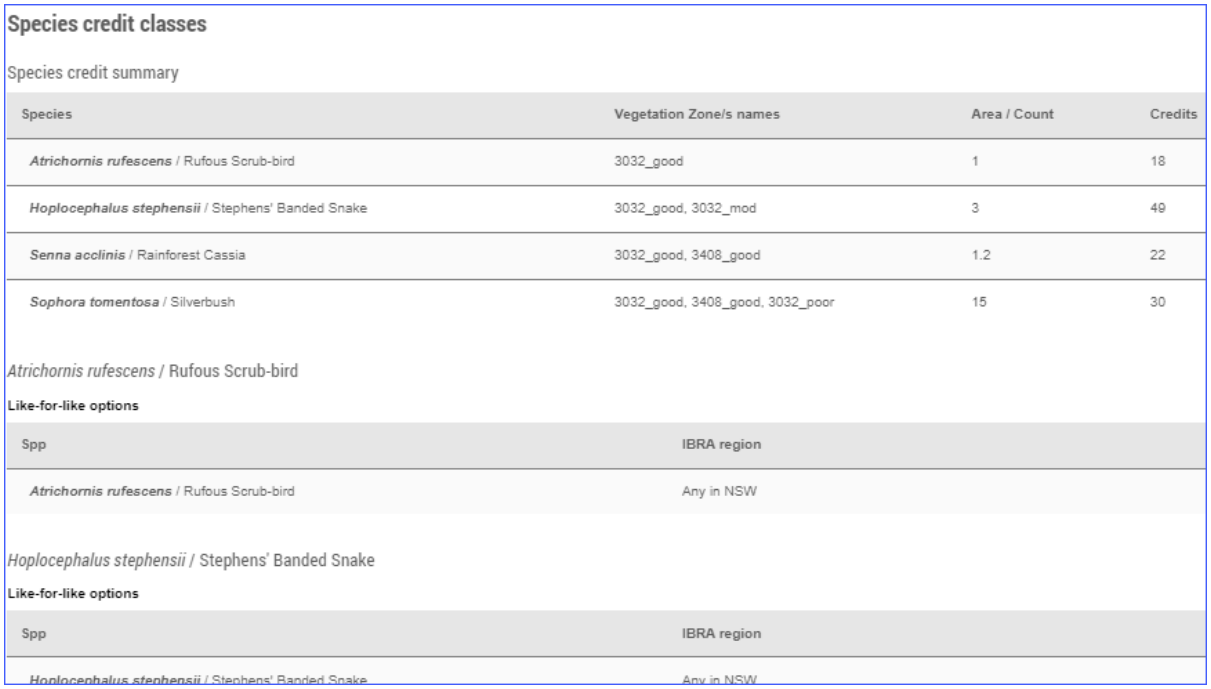
Class	Trading group	HBT	Credits	IBRA region
Riverine Plain Woodlands This includes PCT's: 26, 27, 4104	Riverine Plain Woodlands - ≥ 70% - <90% cleared group (including Tier 2 or higher threat status).	No	33	Inland Slopes , Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Tip

- See BAM 2020, Subsection 10.2.1 and Section 10.3 for further information on offsetting ecosystem credits.

4.8.9 Species credit classes

The second section of Tab 8 displays a summary of the species credit classes for all candidate species confirmed present at the site, and their like-for-like options.



Species credit classes

Species credit summary

Species	Vegetation Zone/s names	Area / Count	Credits
Atrichornis rufescens / Rufous Scrub-bird	3032_good	1	18
Hoplocephalus stephensii / Stephens' Banded Snake	3032_good, 3032_mod	3	49
Senna acclinis / Rainforest Cassia	3032_good, 3408_good	1.2	22
Sophora tomentosa / Silverbush	3032_good, 3408_good, 3032_poor	15	30

Atrichornis rufescens / Rufous Scrub-bird

Like-for-like options

Spp	IBRA region
Atrichornis rufescens / Rufous Scrub-bird	Any in NSW

Hoplocephalus stephensii / Stephens' Banded Snake

Like-for-like options

Spp	IBRA region
Hoplocephalus stephensii / Stephens' Banded Snake	Any in NSW

Tip

- See BAM 2020, Subsection 10.2.2 and Section 10.3 for further information on offsetting species credits.

4.9 Price (Tab 9)

The Biodiversity Offsets Payment Calculator (BOPC) was replaced by the BCF Charge System on 17 October 2022. The new BCF Charge System will now be used to determine the amount a proponent may pay into the BCF to meet a biodiversity offset obligation.

The Biodiversity Conservation Trust (BCT) is responsible for administering the new charge system.

More information about the new charge system, including how to request a quote from the BCF, is available on the BCT website.

5. Creating a small area assessment

'Appendix C: Streamlined assessment module – Small area' of the BAM 2020 is dedicated to assessing small areas and provides streamlined (simplified) assessment requirements.

There are 8 development-type assessments. This chapter in the guide only relates to Part 4/Part 5 small area assessments. Refer to Chapter 4 of this guide for information on assessing general Part 4, Part 5 proposals, major projects, biocertification and general clearing, and Chapter 6 for information on assessing scattered trees.

There are limitations on when a small area assessment can be used – all the following requirements must be met:

- It meets the scheme's area clearing thresholds, as shown in Table 3 below. Most small area assessments include only one PCT though the BAM-C allows 2 PCTs to be added as long as at least one is a TEC.
- There is no core koala habitat identified on the *Biodiversity Values Map* for the proposed site. Core koala habitat is identified in the relevant plan of management under Chapter 4 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* and shown on the *Biodiversity Values Map*.
- There is one dominant PCT, or there are 2 dominant PCTs, and at least one is a TEC. Note, the small area module can still be applied where the total assessment area meets the small area threshold but there are more than 2 TECs, or more than one PCT (but none are TECs). Add the dominant TEC(s) and/or PCT into the BAM-C, then include all areas of the smaller, non-dominant PCT(s) or TEC(s) into the vegetation zones of the dominant PCT and/or TEC(s).

All assessments that do not meet the above requirements must use a different assessment method and tool – refer to Chapter 4 of this guide for the available alternatives.

Table 3 Area clearing limits applicable to the small area streamlined assessment module of the BAM 2020

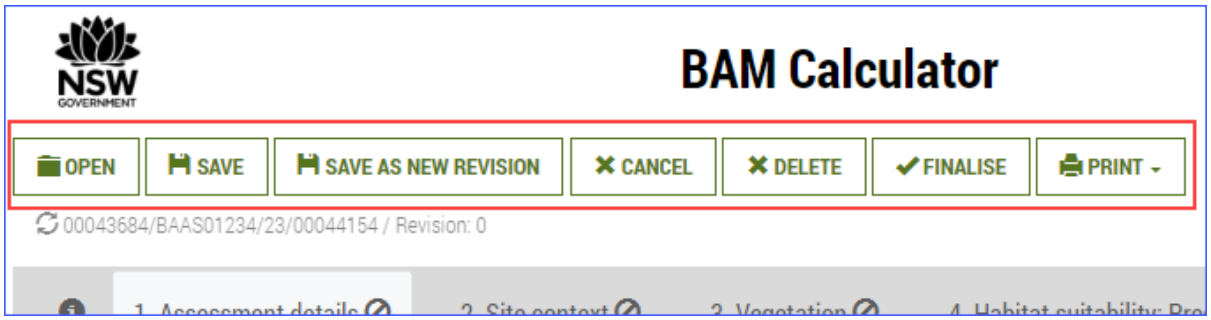
Minimum lot size associated with the property *	Maximum area clearing limit for the application of the small area module
Less than 1 ha	≤1 ha
Less than 40 ha but not less than 1 ha	≤2 ha
Less than 1,000 ha but not less than 40 ha	≤3 ha
1,000 ha or more	≤5 ha

* Shown in the lot size maps made under the relevant local environmental plan (LEP), or actual lot size where there is no minimum lot size provided for the relevant land under the LEP

The candidate species list will only display species at risk of an SAII.

When entering data in each tab of the BAM-C, proceed to the next tab by using the 'Next' button at the bottom of the page. The data added then flows through to the next tab in the BAM-C.

There are high-level functions that act across all tabs to help you manage assessments and create output from the calculator. Refer to Chapter 3 of this guide for information on these functions.



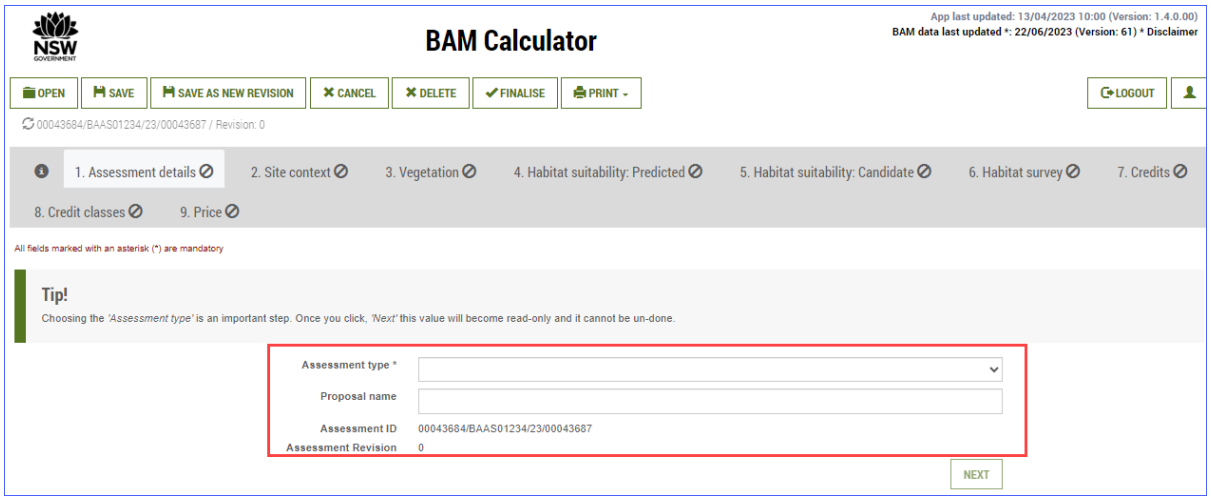
Tip

- When adding the same PCT twice, be sure to name the vegetation zone in a way that distinguishes one zone from another, for example, 'TEC_good' or 'Non-TEC_poor'.
- See Appendix C of the BAM 2020 for further information on the small area streamlined assessment module.
- Remember to click 'Next' so the data entered flows through to the subsequent tabs and calculations.

Sections 5.1–5.9 below detail how to use each of the tabs in the BAM-C to enter details for a small area assessment.

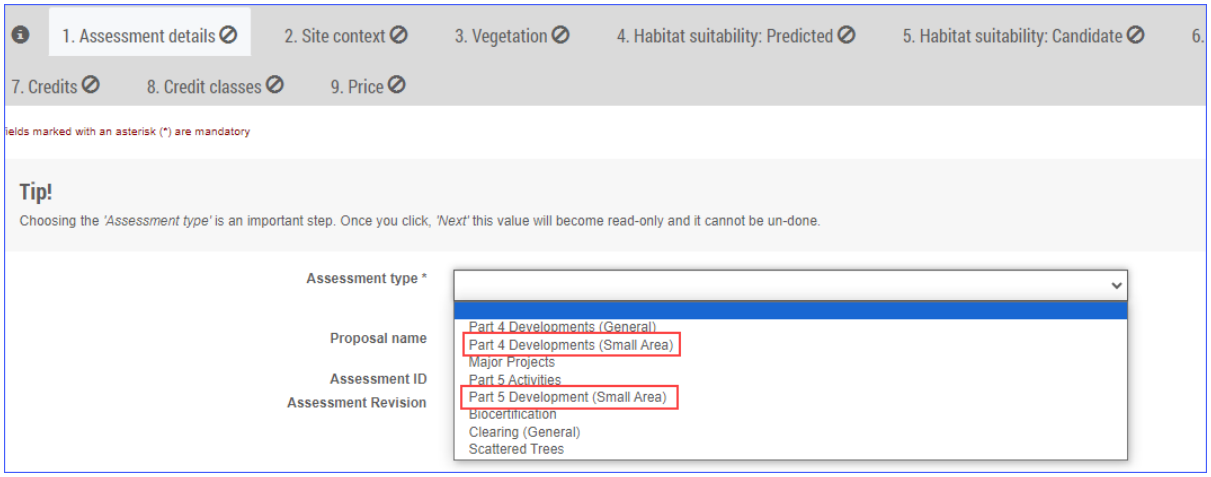
5.1 Assessment details (Tab 1)

The ‘Assessment details’ tab is used to capture the type of development assessment and record the proposal name.

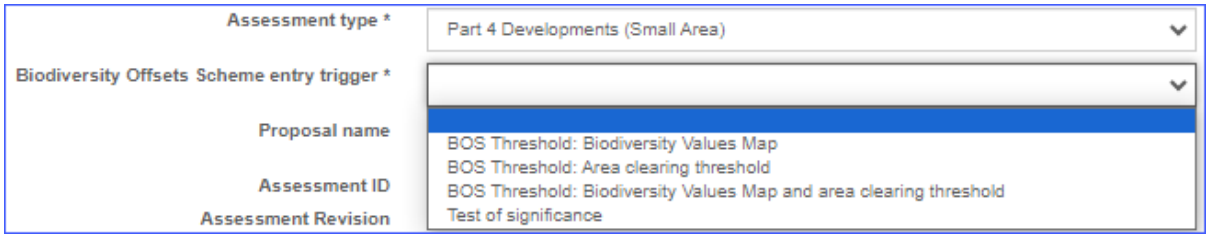


1. Click on the ‘Assessment details’ tab to enter assessment details.

2. Use the ‘Assessment type’ drop-down to select ‘Part 4 Developments (Small Area)’ or ‘Part 5 Development (Small Area)’.



3. Use the ‘Biodiversity Offsets Scheme entry trigger’ drop-down to select the required entry trigger. For more information on the entry trigger, refer to the *When does the Biodiversity Offsets Scheme apply?* webpage (see Appendix B).



Tip

- The ‘Biodiversity Offsets Scheme entry trigger’ is not available for Part 5 Development (Small Area) cases as the entry trigger is not applicable to this type of assessment.

4. Add a unique description into the ‘Proposal name’ field.

Tip

- The proposal name is a valuable identifier for the BAM-C assessment.
- A good proposal name will help you distinguish differences between assessment revisions.

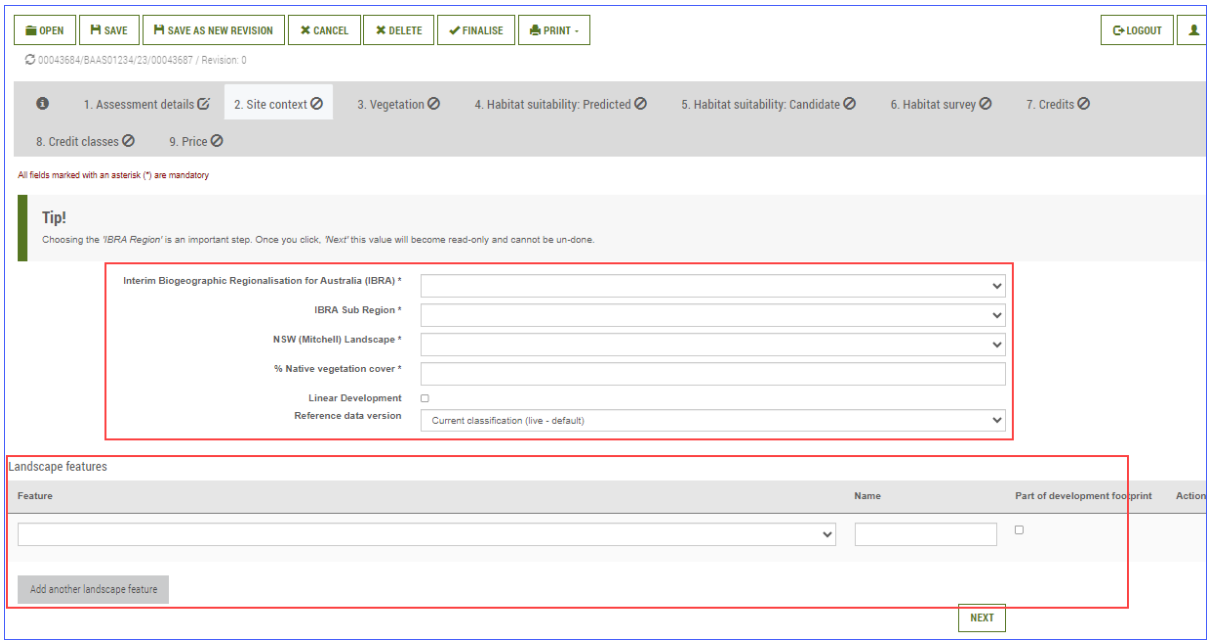
5. When all required information has been entered, click ‘Next’ to move to Tab 2.

Tip

- Once ‘Next’ is clicked, the assessment type for the assessment is locked.
- To change the assessment type, cancel or exit the assessment before saving and reopen the assessment.
- If the assessment has the incorrect assessment type and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click ‘Next’ to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

5.2 Site context (Tab 2)

The ‘Site context’ tab is used to capture information relating to the biogeographic and landscape setting of the site. Information required for this tab is displayed below.



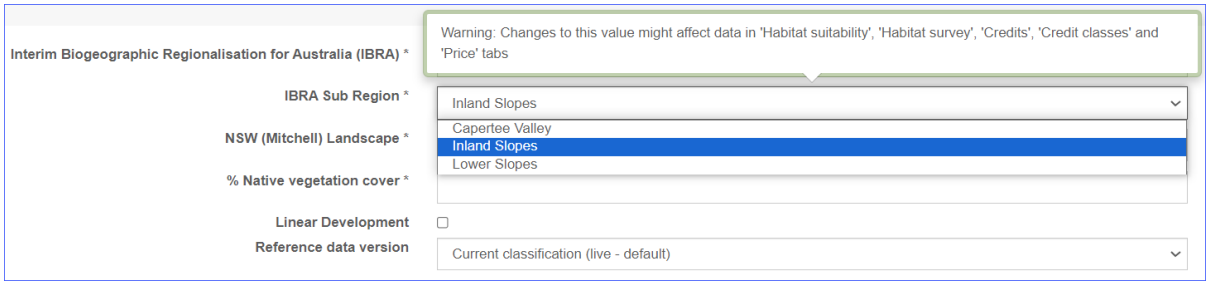
1. The ‘Site context’ tab will be open if ‘Next’ was clicked on Tab 1.

2. Use the ‘Interim Biogeographic Regionalisation for Australia (IBRA)’ drop-down to select the IBRA region. If the assessment occurs across multiple IBRA regions, select the IBRA region where the largest proportion of impact/area will occur.

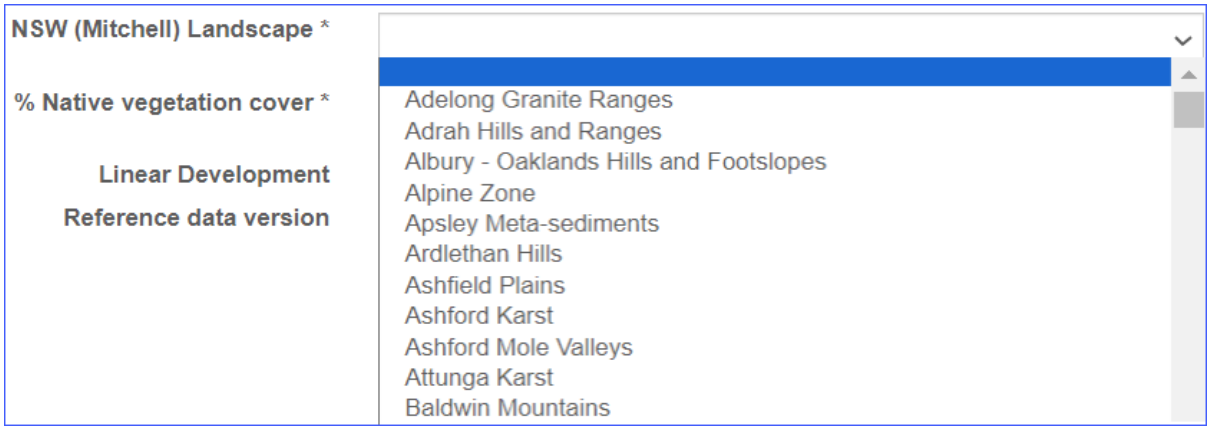
Tip

- See *Bioregions of NSW* for further information on bioregions of New South Wales (see Appendix B).
- See BAM 2020, Chapter 3 for further information on establishing the site context.
- The IBRA subregion selection affects future selections of PCT, TEC and species.

3. Use the 'IBRA Sub Region' drop-down to select the IBRA subregion in which the site is located. The drop-down is filtered based on the IBRA region selected in step 2.



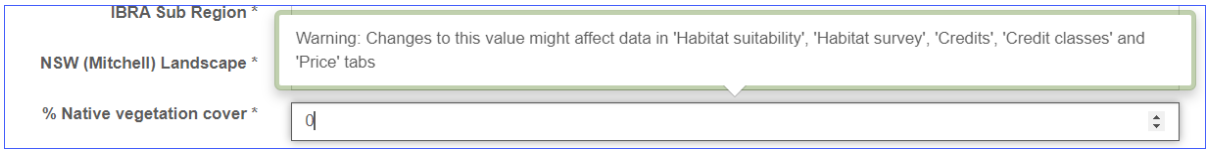
4. Use the 'NSW (Mitchell) Landscape' drop-down to select the landscape in which most of the proposal occurs.



Tip

- NSW (Mitchell) landscape does not influence calculations of VI or credit calculations for small area assessments, but is used in reporting.
- See *Descriptions for NSW (Mitchell) Landscapes* for further information (see Appendix B).

5. Enter a value for the percentage landscape native vegetation cover in the '% Native vegetation cover' field.



Tip

- See BAM 2020, Section 3.2 for further information on native vegetation cover.
- The % native vegetation cover value entered may affect the predicted and candidate fauna species lists. Refer to the definition of 'Suitable habitat' in the BAM 2020 Glossary for more information.

6. Tick the 'Linear Development' checkbox if the development is linear-shaped. Linear-shaped development is generally narrow and extends across the landscape.

7. **Reference data version** – The revised Eastern NSW PCT Classification has been deployed into the BAM-C, and revisions to the remainder of the state will be rolled out over the coming years. The reference data version may have different options available depending on when the assessment was created and which IBRA region is selected.

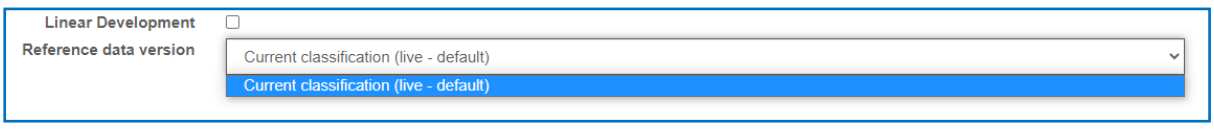
   Instructions are provided for the following scenarios:

   a. new assessments inside a revised NSW IBRA region
   b. existing assessments inside a newly revised NSW IBRA region
   c. new or existing assessments outside a newly revised NSW IBRA region.

   a. New assessments inside a revised NSW IBRA region

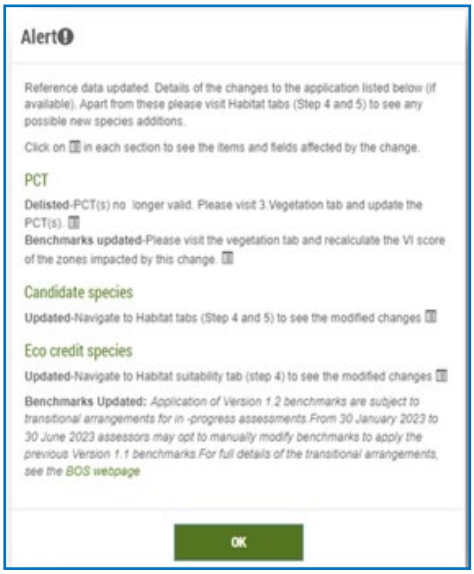
   All new assessments created after deployment of a revised NSW PCT classification will automatically use the revised NSW PCTs when an associated NSW IBRA region is selected.

   The only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



b. Existing assessments inside a newly revised NSW IBRA region

Reopening 'Open', 'Locked' or 'Finalised' assessments created before deployment of a newly revised NSW PCT classification will trigger an update with the revised NSW PCTs. This will trigger an alert detailing the changes that have occurred in the assessment.

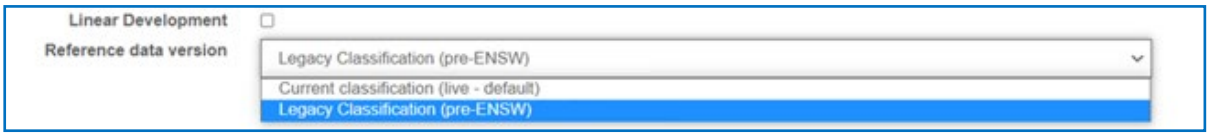


Tip

- Take a screenshot of the alert showing the updates. Alerts will not display again once the case has been saved.

To use legacy PCTs during a transitional period, select the legacy classification in the 'Reference data version' drop-down.

Alternatively, to use the revised NSW PCTs select 'Current classification (live – default)'.

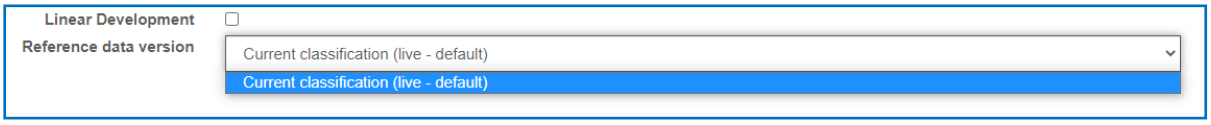


To progress an assessment with revised data, the following tabs may require amendment:

- Tab 3 – Vegetation
- Tab 4 – Habitat suitability: Predicted
- Tab 5 – Habitat suitability: Candidate
- Tab 6 – Habitat Survey.

c. New or existing assessments outside a revised NSW IBRA region

New or existing assessments outside of a newly revised NSW IBRA region will ***not*** update with new NSW PCTs, as they are not relevant. The only available option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



Tip

- Further information on transitional arrangements is available from the *New vegetation integrity benchmarks and plant community types* webpage (see Appendix B).
- When a transitional period ends, the only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'. At this time, revised NSW PCTs must be used for all assessments within the associated NSW IBRA regions.
- Clear your browser cache to ensure any newly revised NSW PCTs and the legacy reference data version display correctly in the drop-down.

Clearing the BAM-C cache – If you are having a problem selecting legacy PCTs (during a transitional period) in a case created before deployment of any revised NSW PCTs, clear your cache in the BAM-C. See Appendix A of this guide for instructions on clearing the cache.

Tip

- If you cannot clear the cache to see the legacy classification in the 'Reference data version' drop-down, contact the BOS Help Desk for assistance.
- Once 'Next' is clicked, the IBRA region for the assessment is locked.
- To change the IBRA region, cancel or exit the assessment before saving and reopen the assessment.
- If the IBRA region is incorrect and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).

5.3 Vegetation (Tab 3)

The ‘Vegetation’ tab is used to record the PCT(s) present on the site and to capture individual plot data that is used to calculate the VI scores for each plot.

The method for recording PCTs and TECs at a site and calculating current vegetation condition of a site is the same for all assessment types. Refer to Chapter 4 of the BAM 2020 for further information.

Small area assessments can record a maximum of 2 PCTs. Where 2 PCTs require assessment, at least one PCT must be a TEC to use the small area assessment method. For any assessment that does not meet this requirement, refer to Chapter 4 of this guide for the available alternatives.

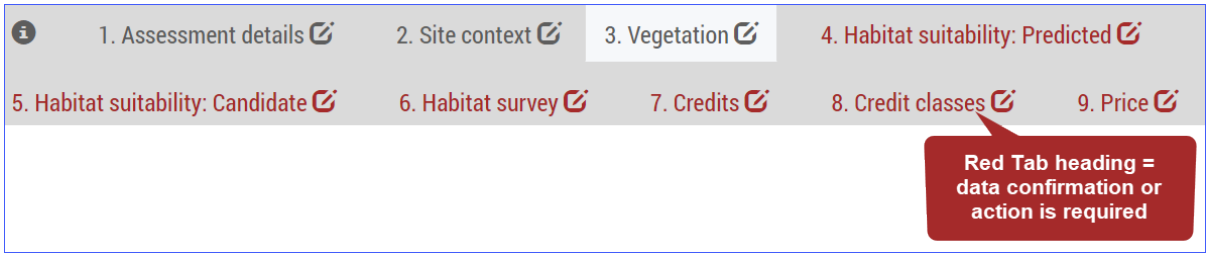
Tip

- Where the total assessment area meets the small area threshold but there are more than 2 TECs, or more than one PCT (but none are TECs), the small area module can still be applied. Add the dominant TEC(s) and/or PCT into the BAM-C, then include all areas of the smaller, non-dominant PCT(s) or TEC(s) in the vegetation zones of the dominant PCT and/or TEC(s).

5.3.1 Define the PCTs and TECs

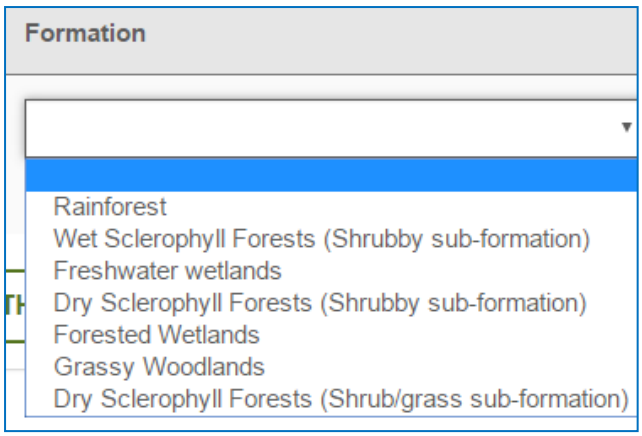
1. The ‘Vegetation’ tab will be open if ‘Next’ was clicked on Tab 2. When reopening an assessment with existing information, click on Tab 3 to open it.

2. Note that if any of the tab headings are shaded in red, this indicates that action is required, or information needs to be entered/confirmed on that tab. Remember to click ‘Next’ to move through the tabs if any changes are made.



3. If the PCT name or number is known, the ‘Plant community type’ field can be added as the first step, which will automatically populate the formation and class fields.

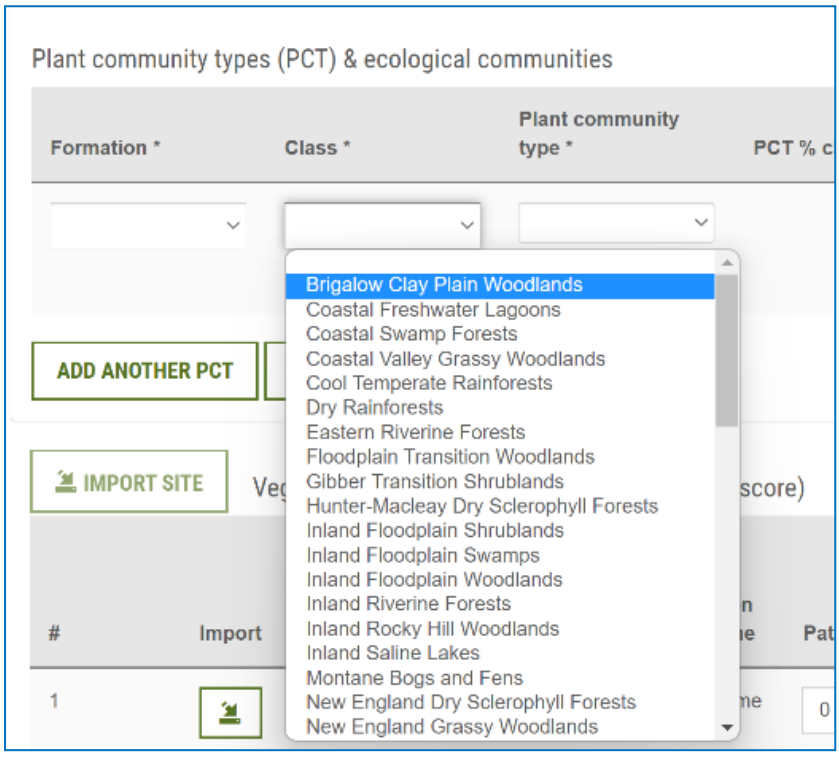
   If the PCT name or number is not known, use the ‘Formation’ drop-down to select the formation for the required PCT.



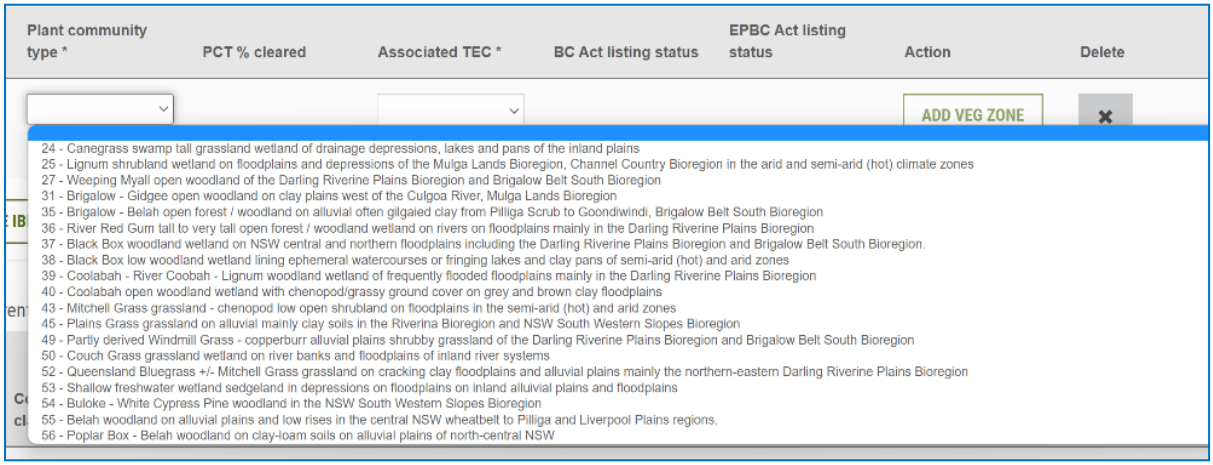
Tip

- If the PCT or number is known, enter this first and the formation and class fields will be populated automatically.
- Only PCTs associated with the IBRA region and IBRA subregion will be available.
- Refer to the webpage *About BioNet Vegetation Classification* (Veg-C) for further information about PCTs and TECs (see Appendix B).

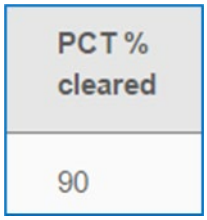
4. Use the 'Class' drop-down (if PCT name or number is not known) to select the required class. The classes available will be filtered to those associated with the formation if a formation was selected in step 3.



5. Use the ‘Plant community type’ drop-down to select the required PCT. The PCTs available will be filtered to those associated with the class if a class was selected in step 4.



6. The % cleared value for the PCT will display under ‘PCT % cleared’. The % cleared value is an estimate of the extent to which a PCT has been cleared since European settlement and is used when assigning a non-threatened PCT to an OTG.



Tip

- Detailed information on each PCT and its geographic distribution is available as a downloadable and refreshable Power Query from *NSW BioNet Resources* (see Appendix B), ‘BioNet Vegetation Classification’ > ‘Power Queries’ > ‘Plant Community Type data’.
- Refer to the *Offset rules and ecosystem credits* guidance for more information on % cleared and OTGs (see Appendix B).

7. Use the ‘Associated TEC’ drop-down to select the relevant TEC. If no TEC is associated with the PCT, select ‘Not a TEC’.

Tip

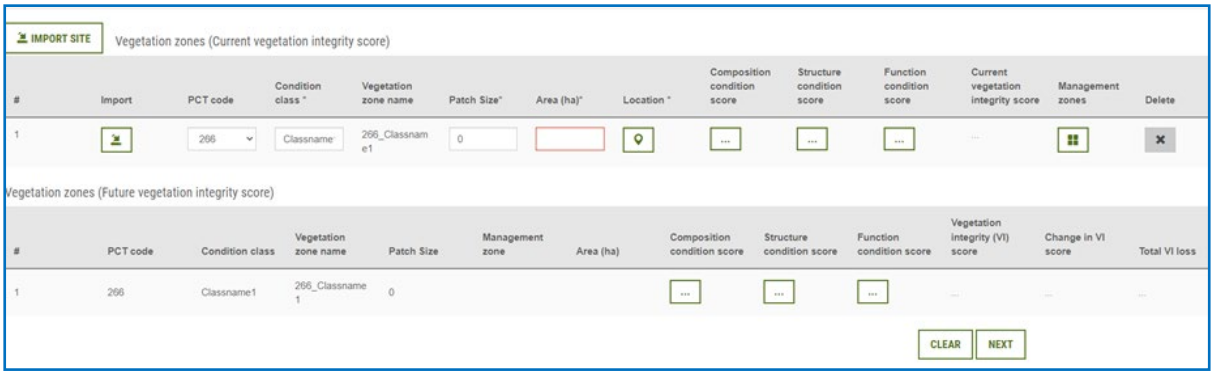
- Only TECs with an association with the selected PCT (in BioNet) are shown in the drop-down. Where a TEC is present at the site but is unavailable in the drop-down list, it may be because the TEC is not associated with the IBRA region and IBRA subregion chosen.
- A detailed description of each TEC is available through the *Threatened biodiversity profile search* app (see Appendix B).
- Detailed information on the PCT to TEC associations and the applicable subregions is available as a downloadable and refreshable Power Query from the *NSW BioNet Resources* webpage (see Appendix B). 'BioNet Vegetation Classification' > 'Power queries' > 'Threatened Ecological Community to Plant Community Types (PCT) Association data'.
- To request a review of a TEC association, contact the BOS Help Desk.

8. The state and Commonwealth listing status of a TEC will be displayed under the 'BC Act listing status' and 'EPBC Act listing status' headings, respectively.

BC Act listing status	EPBC Act listing status
Critically Endangered Ecological Community	Not Listed

9. Click 'Add veg zone'.

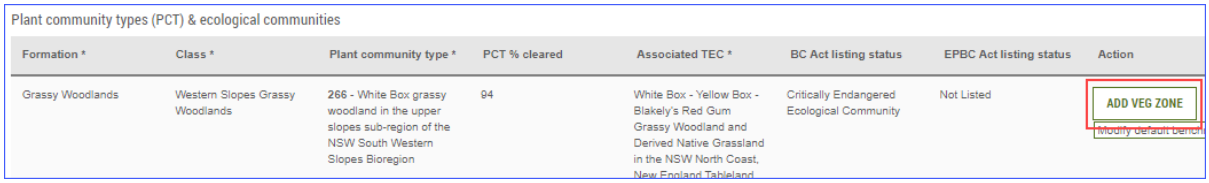
10. A vegetation zone record will be added to sections:
    - 'Vegetation zones (Current vegetation integrity score)'
    - 'Vegetation zones (Future vegetation integrity score)'.



Tip

- Adding a unique condition class name to each vegetation zone will help you distinguish the vegetation zones throughout the assessment, especially when both a TEC and non-TEC have been identified on site for the same PCT.
- The future VI score fields display the remaining VI values after the development or clearing has occurred at a site. Only edit this section if partial loss of VI is occurring, rather than total loss.

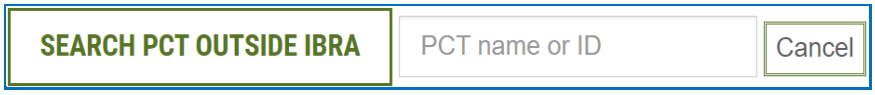
11. For PCTs with multiple vegetation zones, click 'Add veg zone' beside the applicable PCT to add another vegetation zone.



12. A zone number will be generated for each vegetation zone and the relevant PCT number for each record displayed.

13. Click 'Add another PCT' (if required) and repeat the above steps to add additional PCTs.

14. If the required PCT is missing from the PCT list, click 'Search PCT outside IBRA' and enter the name or PCT number to search and then select the PCT. Repeat the above steps for adding vegetation zones.

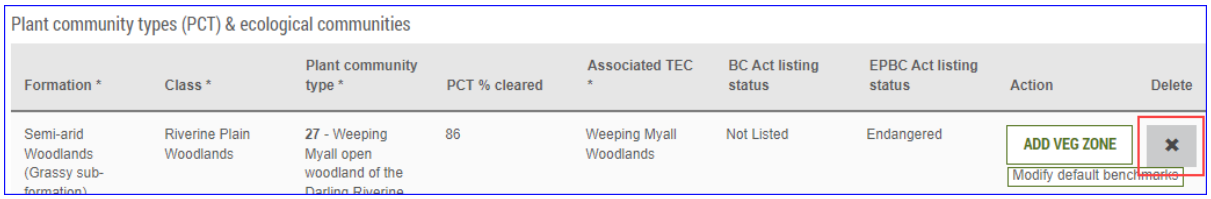


Tip

- For small area assessments PCTs are generally restricted to one PCT, however, 2 can be added if at least one is a TEC.
- You can only add PCTs that are associated with the selected IBRA region when you use the 'Add Another PCT' button.

- With the ‘Search PCT outside IBRA’ button you can add any approved PCT, not only those associated with the selected IBRA region.
- Some PCTs have no (or incomplete) benchmarks in Veg-C. For these PCTs, an error will display and the PCT cannot be used in the assessment.

15. To delete a PCT or a vegetation zone click the button on the right under ‘Delete’.



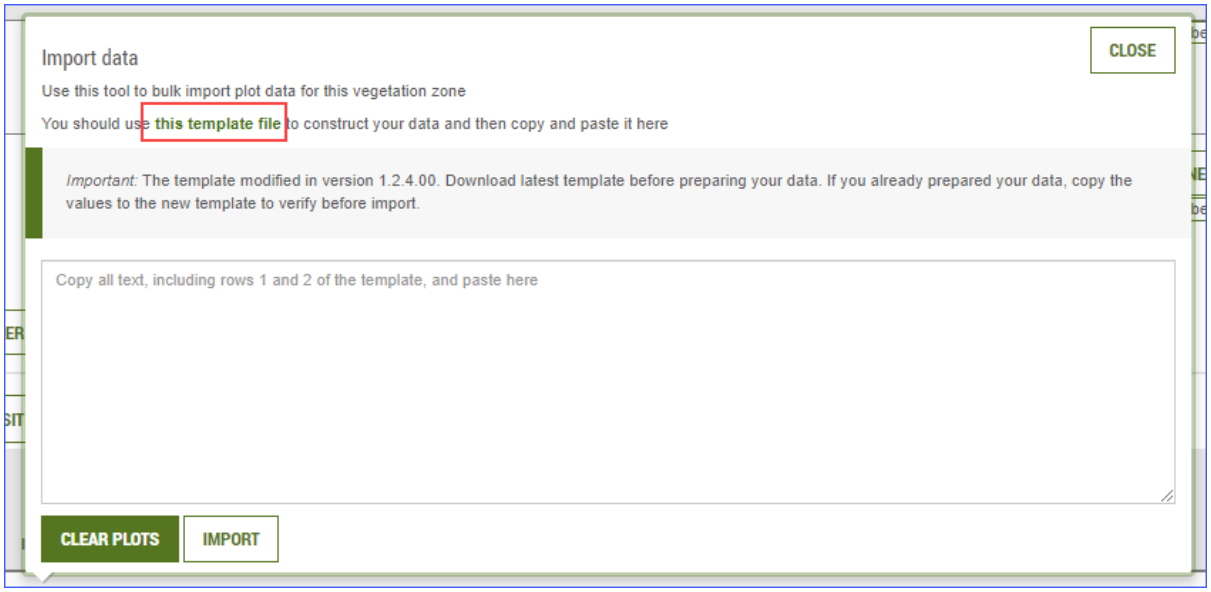
Tip

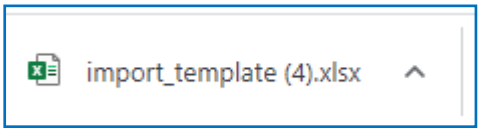
- Vegetation zone and site data can be imported into the BAM-C in CSV file format (Subsection 5.3.2) or added manually (Subsection 5.3.3). See below for the instructions.

5.3.2 Import vegetation zones

1. To import vegetation zone data, click the import icon beside the vegetation zone.

2. Download the CSV template by selecting ‘this template file’ in the import pop-up and an excel import data template will become available.





3. Open and populate the template with observation values and save the template:
   - row 1 of the template is reserved for headers
   - row 2 of the template is reserved for example data
   - users must enter plot data into the template from row 3 onwards.

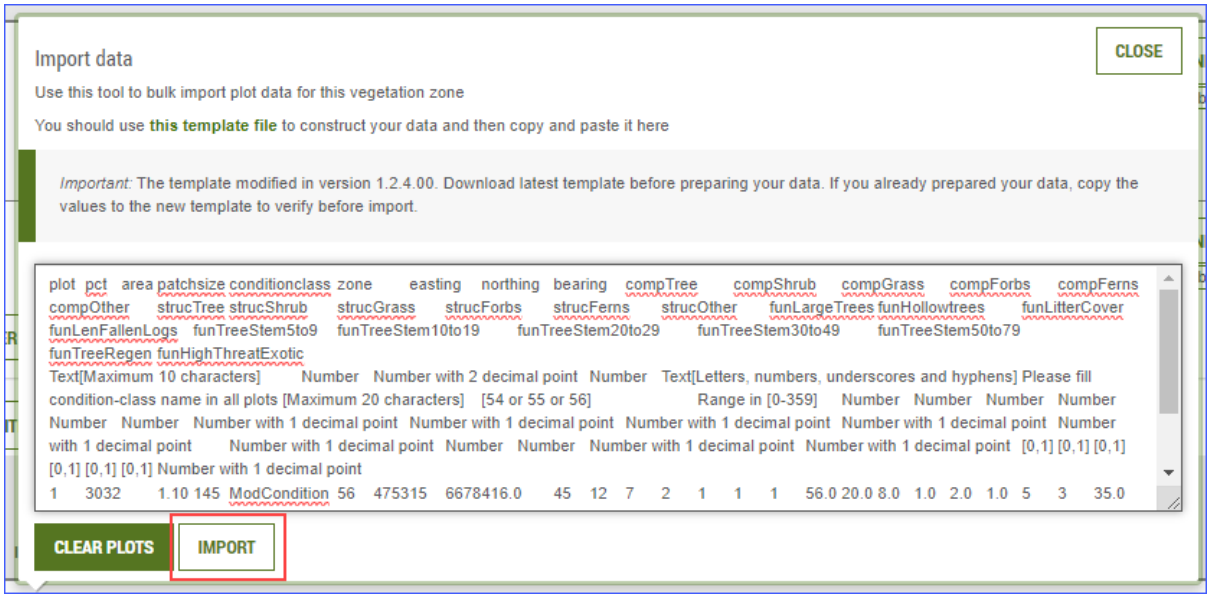
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShru	compGras	compForb	compFern	compOthe	strucTree
2	Text[Maximum 10	Number	Number with 2 decin	Number	Text[Letters, numbe	[54 or 55 or 56]			Range in [	Number	Number	Number	Number	Number	Number	Number w
3	1	3032	1.10	145	ModCondition	56	475315	6678416.0	45	12	7	2	1	1	1	56.0
4	2	3032	0.30	145	GoodCondition	56	475316	6678414.0	40	10	4	2	0	1	0	46.0

4. Select and copy all column headings in rows 1 and 2 and the data from row 3 (and onwards if there is more than one plot). Make sure no blank columns or rows are selected.

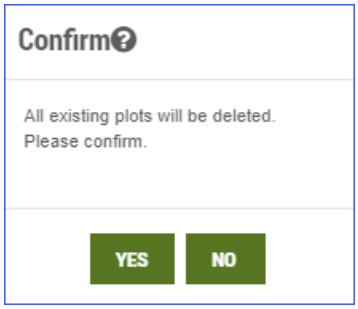
	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1	strucOthe	funLargeT	funHollow	funLitterC	funLenFal	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeRe	funHighTh	reatExotic
2	Number w	Number	Number	Number w	Number w	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	Number w	ith 1 decima
3	0.0	2	0	50.0	55.0	0	0	1	1	0	1	2.0	
4	0.0	1	2	75.0	22.0	0	1	1	0	0	1	9.0	
5													

5. Click the import icon to reopen the 'Import data' pop-up (if not already open).

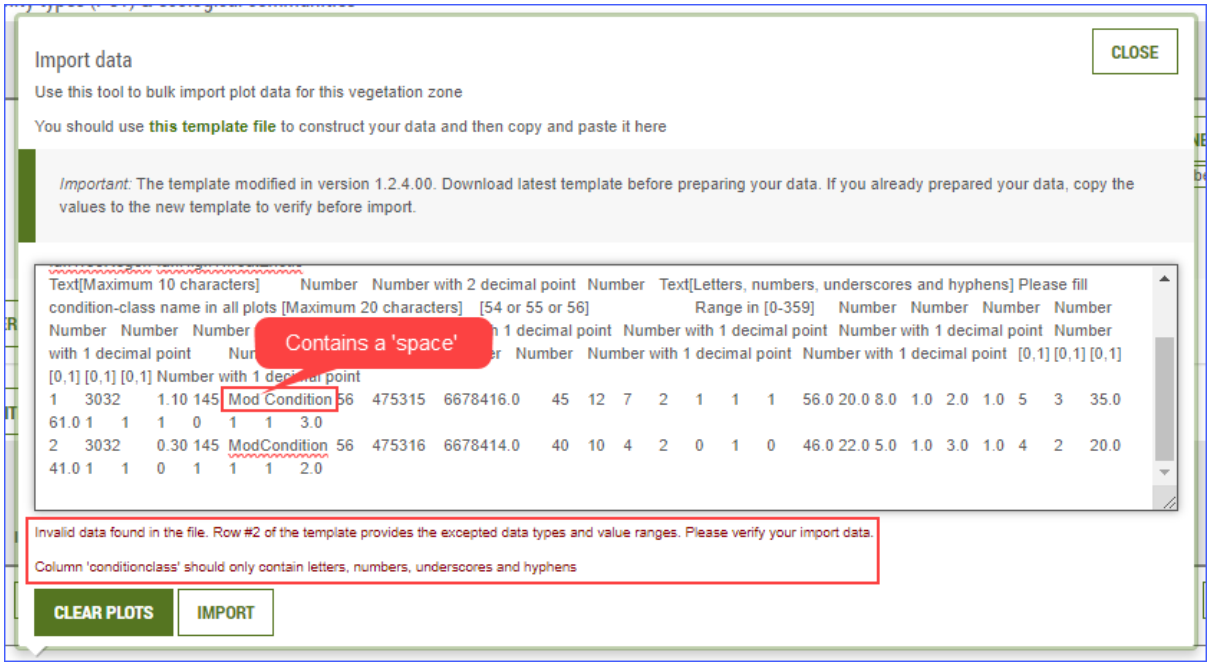
6. Paste the copied data from the template into the 'Import data' pop-up and click 'Import'.



7. A pop-up will open asking you to confirm that all existing plots will be deleted. Click 'Yes' to delete any previous plot data or 'No' to cancel and retain the existing plot data.

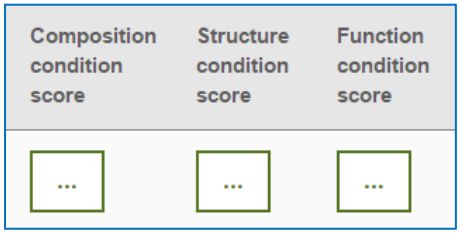


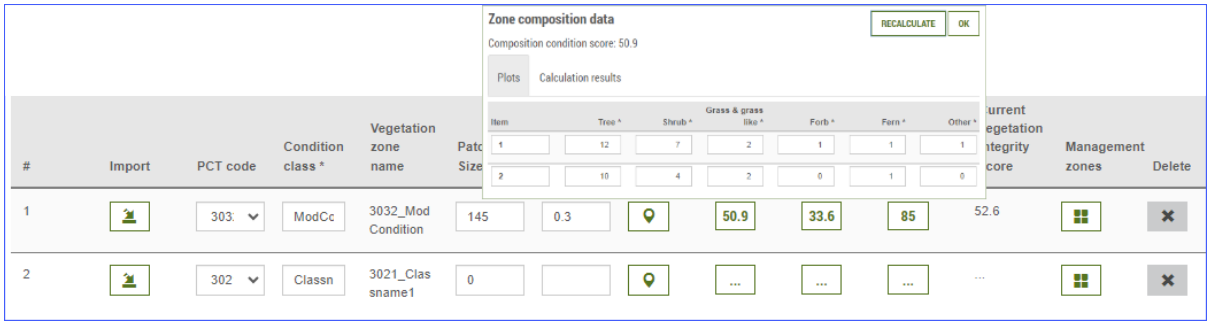
8. If the import was not successful, or only partially successful, the ‘Import data’ pop-up will display an error message. Correct the error(s) in the CSV file, copy and paste the corrected data, and re-import.



9. Click ‘Close’ to close the pop-up once the data has imported.

10. The data will be imported into the relevant condition score pop-ups and the scores will be calculated automatically. The condition score fields for each condition attribute will change from showing no score (indicated by an ellipsis) to showing a numeric score value.





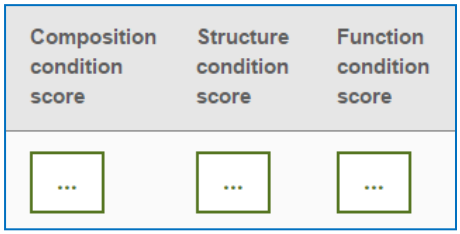
Tip

- If assessing a non-woody PCT, do not specify any values for function attributes other than HTW cover in the CSV import file.
- When copying the data from the template ensure no extra columns are selected or an error will occur.

11. To clear imported data, click the ‘Import’ icon to reopen the ‘Import’ pop-up.

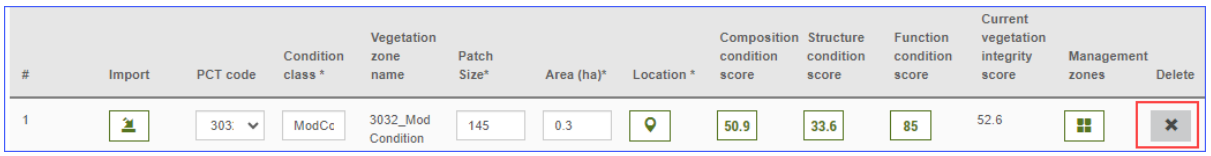
12. Click ‘Clear plots’.

13. All imported data will be cleared, and the condition score fields will revert to displaying no score (‘...’).



14. The above process can be performed for all zones at the site (rather than on a zone-by-zone basis) using ‘Import site’ and following the same process outlined in steps 1–12 above.

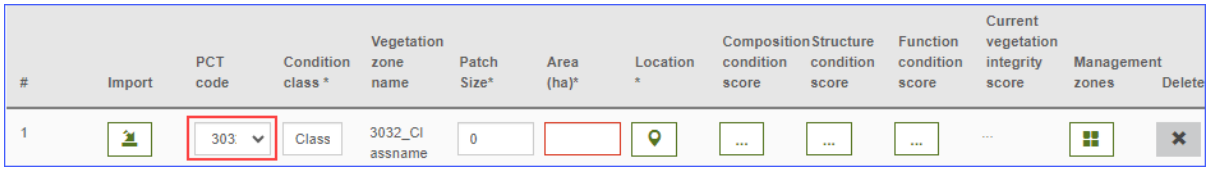
15. Individual zones can be removed by clicking the button on the right under ‘Delete’.



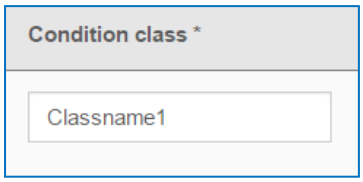
5.3.3 Manually enter vegetation zone data

This section describes how to manually enter the vegetation zone data into the BAM-C to calculate the VI score.

1. The 'PCT code' field is populated automatically when 'Add veg zone' is clicked.



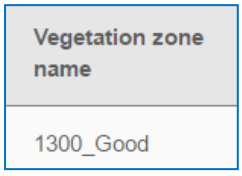
2. Select 'Condition class' and enter a condition class label for the zone. The name must not include spaces, but hyphens or underscores can be used as an alternative (for example, do not enter 'Mod TEC', instead use 'Mod-TEC' or 'Mod_TEC').



Tip

- Zone condition class is solely a label to help identify the zone and does not have any influence on VI or credit calculations.

3. A vegetation zone name will be generated automatically based on the condition class and PCT code and displays under the 'Vegetation zone name' heading.

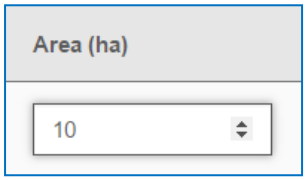


4. Select 'Patch Size' and enter the relevant patch size area (in hectares) for the zone.

Tip

- The patch size value is used to filter the list of fauna species presented in the predicted and candidate species tabs. Refer to the BAM 2020, Subsection 4.3.2 for more information on patch size.
- Making changes to the 'patch size' value may affect data in the 'Habitat suitability', 'Habitat survey', 'Credits' and 'Credit classes' tabs.

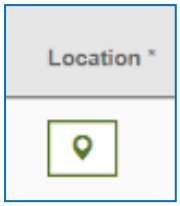
5. Enter the area for the vegetation zone in the ‘Area (ha)’ field.

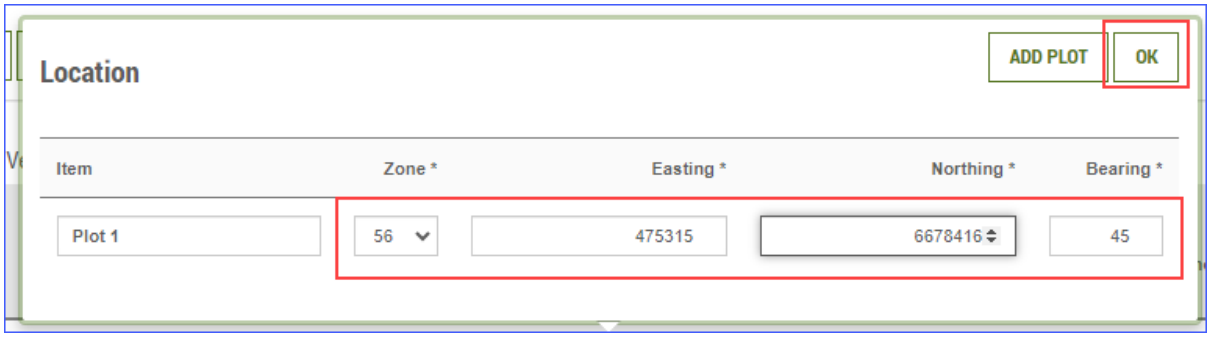


Tip

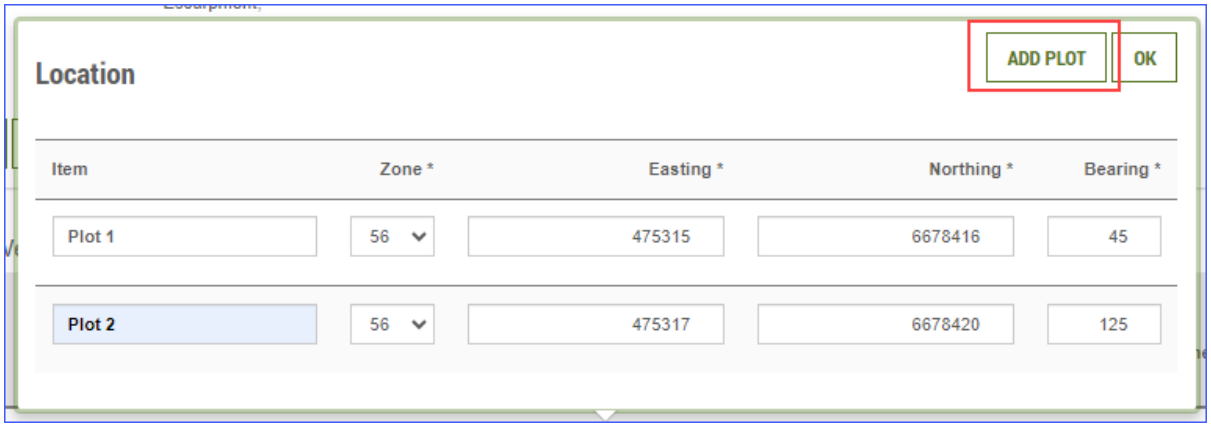
- The area of a vegetation zone will determine the number of plots required. Refer to the BAM 2020, Subsection 4.3.4 (Table 3). The BAM-C automatically adds the number of plots required based on the ‘Area (ha)’ entered.
- Ensure there is at least one vegetation zone for each PCT. Use the scroll bar to the right of the vegetation zone list to confirm each PCT has a vegetation zone.
- The minimum vegetation zone ‘Area (ha)’ accepted is 0.01 ha. If an area is smaller than this, the BAM-C will automatically round it up to 0.01 ha (values of 0.005–0.009 ha will be rounded up). If the area is less than 0.005 ha, consider adding the area to another vegetation zone.
- The ‘Patch size’ should be equal to or greater than the ‘Area (ha)’ size (when the total ‘Area’ of the vegetation zone).

6. Click the ‘Location’ icon and add plot location details.

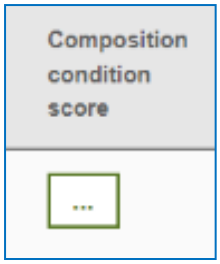




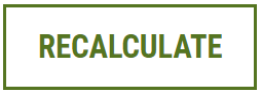
7. If additional plots are required, click ‘Add plot’. Once the required plot data has been added click ‘OK’. Note that adding a plot to the ‘Location’ field will also add a plot to the ‘Composition’, ‘Structure’ and ‘Function’ condition score fields.



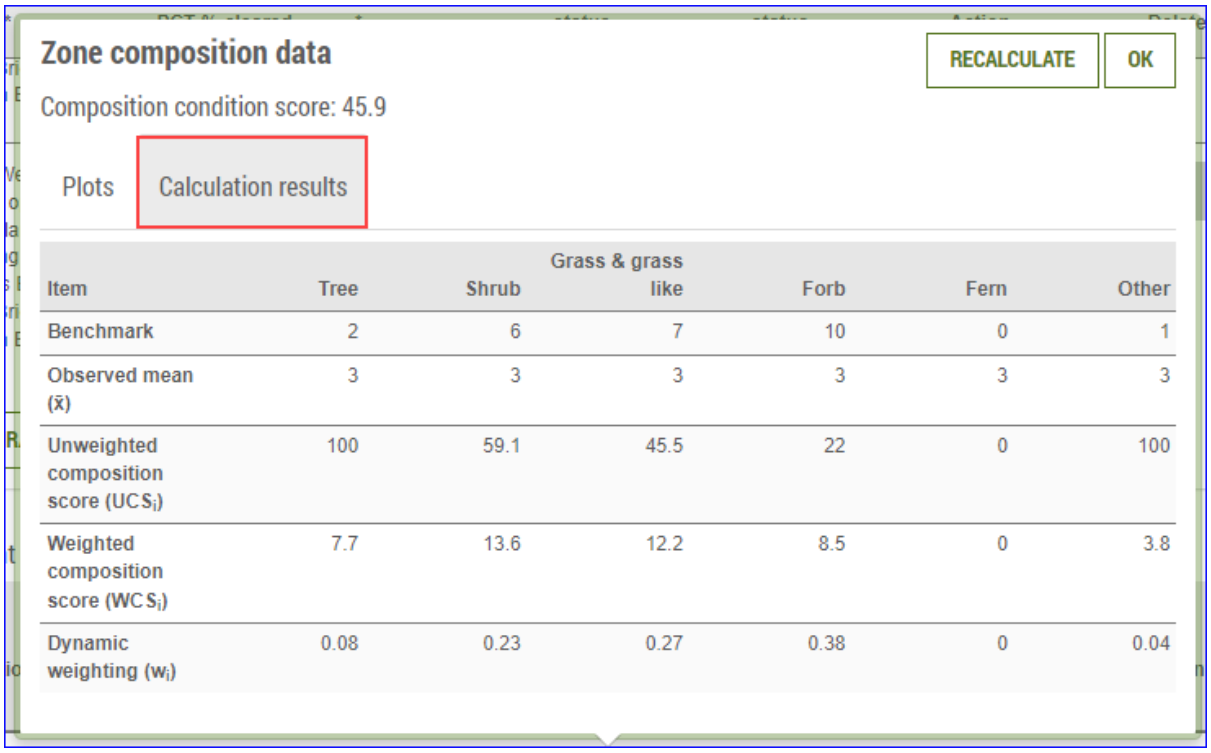
8. Select ‘Composition condition score’ and enter composition data.



9. Click ‘Recalculate’ to update calculation of the composition score for the zone, or ‘OK’ to update and close the composition score pop-up.



10. Select the ‘Calculation results’ tab on the ‘Zone composition data’ pop-up to see the underlying data used to calculate the score.



Item	Tree	Shrub	Grass & grass like	Forb	Fern	Other
Benchmark	2	6	7	10	0	1
Observed mean ($\bar{x}$)	3	3	3	3	3	3
Unweighted composition score (UCS_i)	100	59.1	45.5	22	0	100
Weighted composition score (WCS_i)	7.7	13.6	12.2	8.5	0	3.8
Dynamic weighting (w_i)	0.08	0.23	0.27	0.38	0	0.04

11. Click ‘OK ‘.

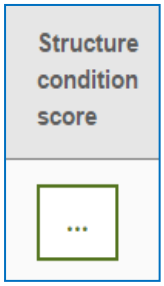
Tip

The following calculations are shown in the composition condition section:

- **Benchmarks** – these values indicate benchmark reference values for the vegetation class/IBRA combination of the zone.
- **Observed mean** – this is the average of observed values entered for all plots for a specific growth form group.
- **Unweighted composition score** – BAM-C calculates and displays the unweighted condition score for the relevant growth form group. This calculation converts observed mean values to continuous unweighted condition scores using a Weibull (continuous probability) distribution.
- **Weighted composition score** – BAM-C calculates and displays the weighted condition score for the relevant growth form group. This calculation applies a dynamic weighting based on the proportional contribution of each growth form group benchmark function to the benchmark total function (sum of benchmark function across all growth form groups).
- **Dynamic weighting** – The BAM-C calculates and displays a dynamic weighting based on the proportional contribution of each growth form group benchmark condition attribute to the benchmark total condition (sum of benchmark condition attributes across all growth form groups).

- Weightings for structure and function are calculated using a similar approach. For further information on these weightings and calculations refer to Appendix H of the BAM 2020.
- For further information on determining the VI score refer to Appendix H of the BAM 2020.

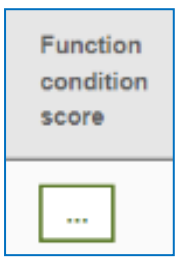
12. Select ‘Structure condition score’ to open the pop-up and repeat steps 8–11 above to calculate the structure score.

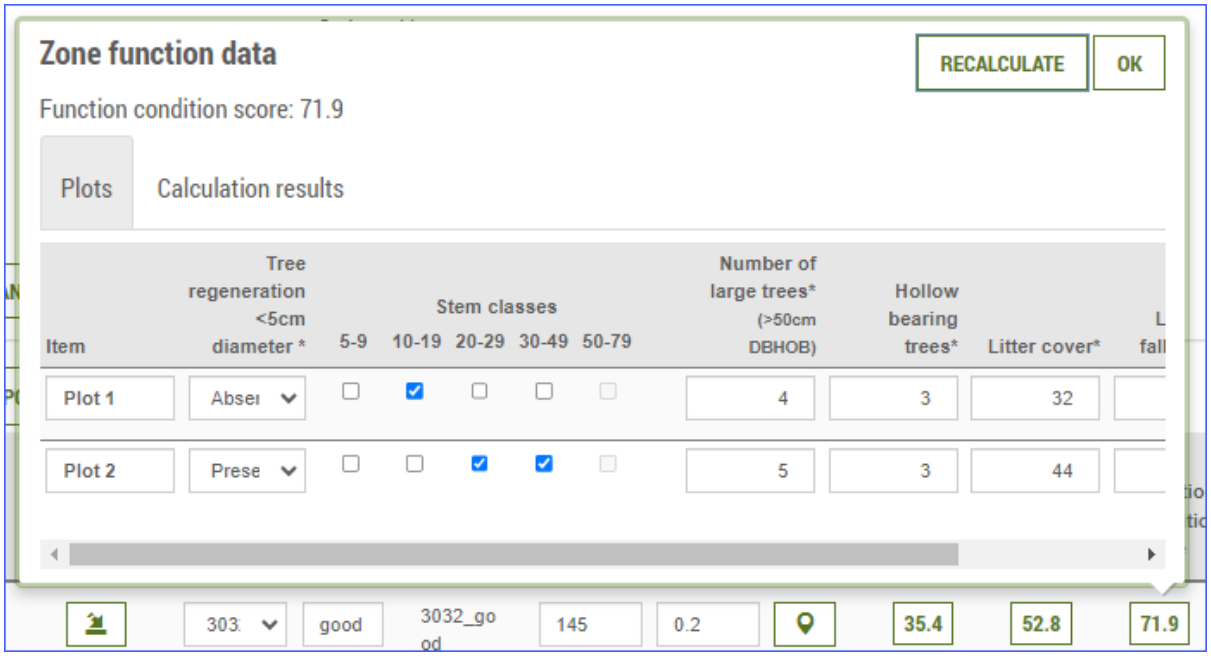


Tip

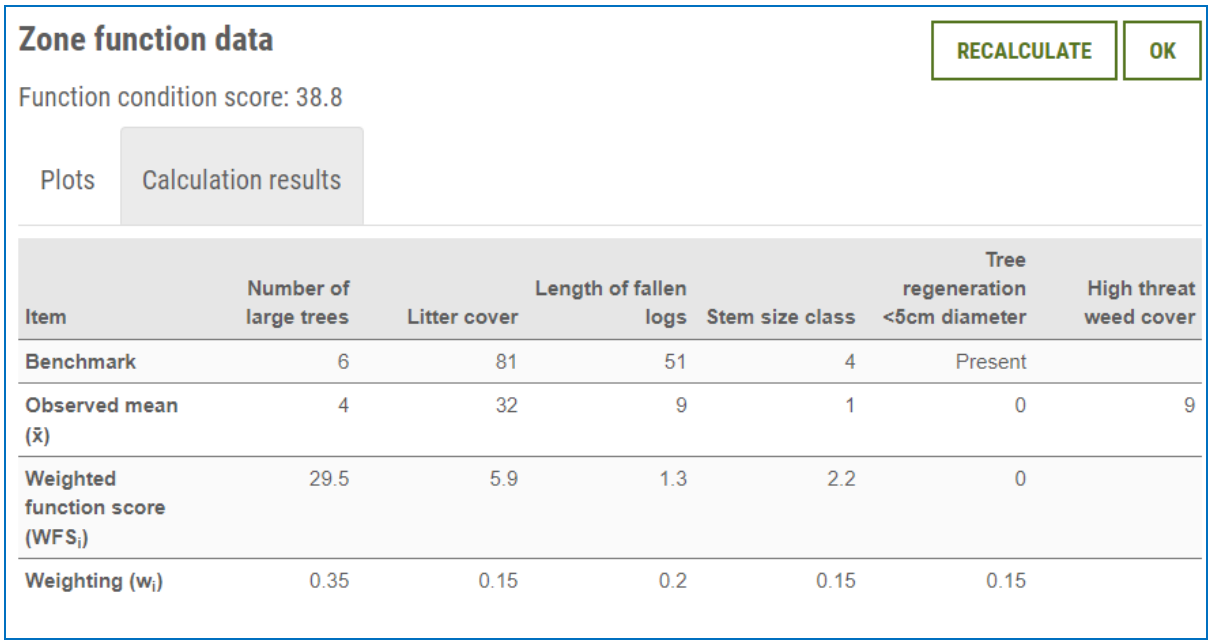
- The same calculations as those described for composition are performed for structure (see BAM 2020, Appendix H).

13. Select ‘Function condition score’ to open the pop-up and repeat steps 8–11 above to calculate the function score.





14. Select the ‘Calculation results’ tab to see the underlying data used to calculate the score.

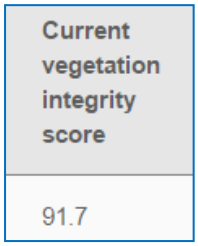


Item	Number of large trees	Litter cover	Length of fallen logs	Stem size class	Tree regeneration <5cm diameter	High threat weed cover
Benchmark	6	81	51	4	Present	
Observed mean ($\bar{x}$)	4	32	9	1	0	9
Weighted function score (WFS_i)	29.5	5.9	1.3	2.2	0	
Weighting (w_i)	0.35	0.15	0.2	0.15	0.15	

Tip

- Some fields in the function tab will be restricted based on the PCT selected. For example, for grassland PCTs the fields relating to trees will be greyed out.
- Weightings for function are static rather than dynamic, as defined in BAM 2020, Appendix H.3.
- Unwanted plot(s) can be removed by deleting them in the 'Location' pop-up. If you delete a plot, the applicable plot data will also be deleted from the composition, structure and function fields.

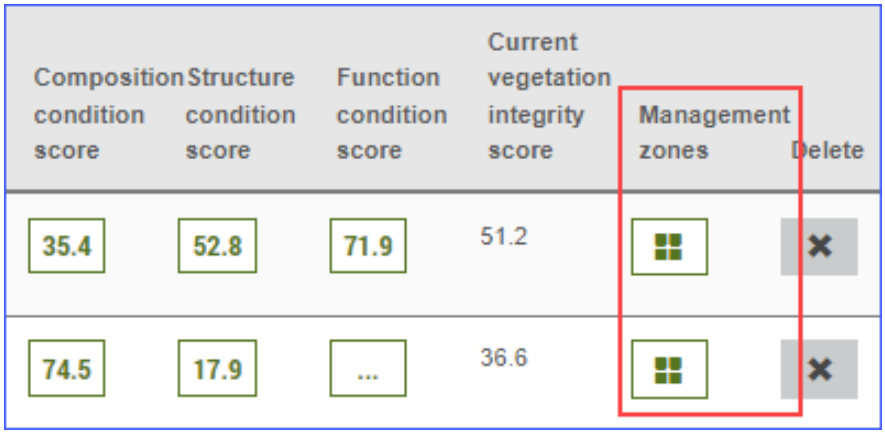
15. After completing the composition, structure and function condition calculations, the current VI score will be displayed.



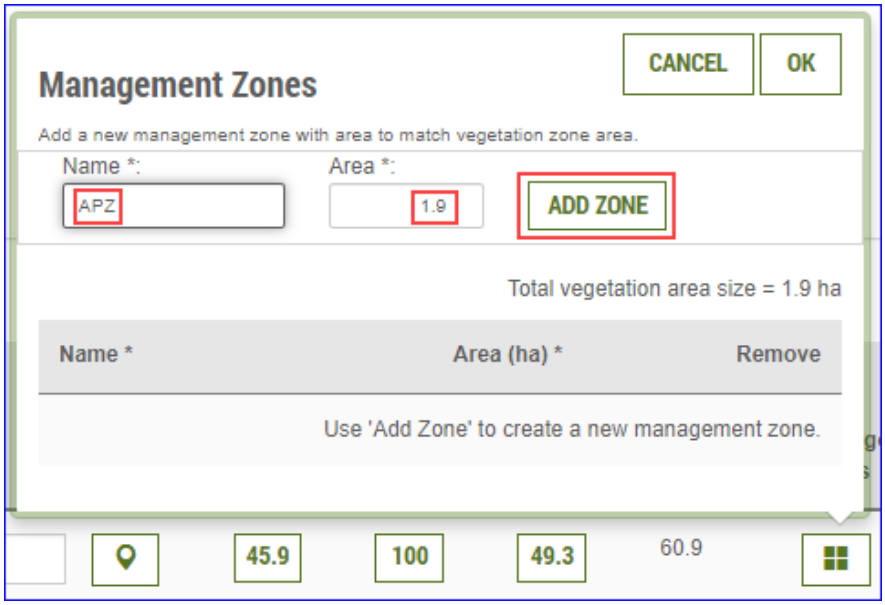
5.3.4 Calculate vegetation integrity for sites with multiple management zones (optional)

Management zones can be added to an assessment to identify areas of a vegetation zone that will have different levels of impact (referred to as partial loss). Refer to Subsection 4.1.2 of the *Biodiversity Assessment Method 2020 Operational Manual – Stage 2* for information on generating VI scores for partial loss (see Appendix B).

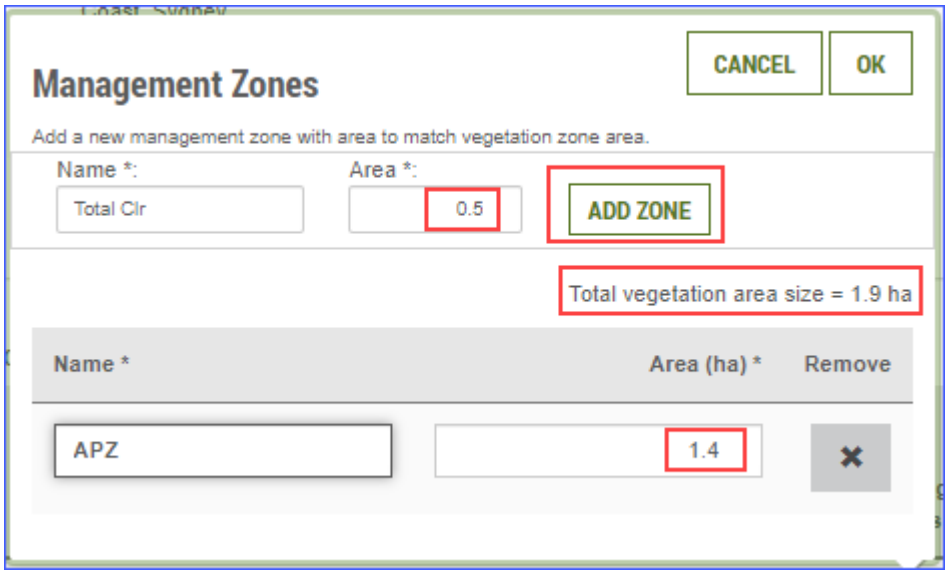
1. To add a management zone to the assessment, click the icon under 'Management zones'.

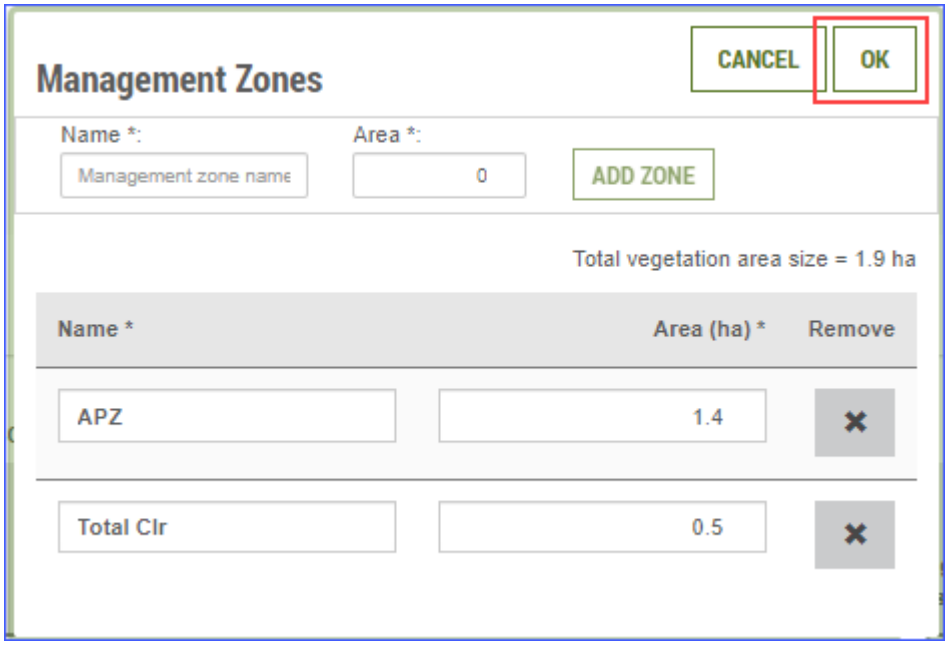


2. The 'Area' value is automatically populated based on the area of the vegetation zone. Add a name, then click 'Add zone' and then 'OK'.

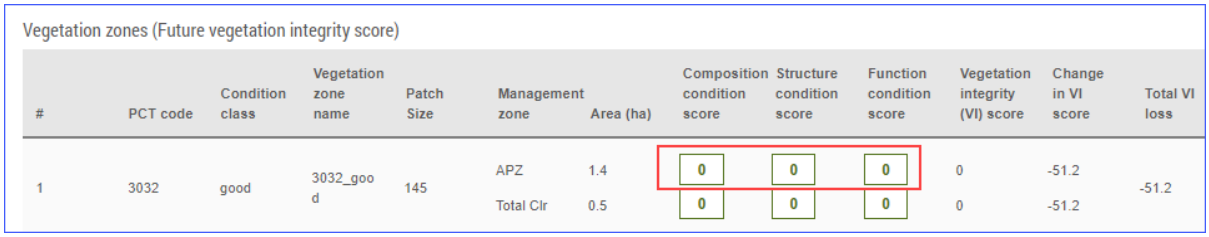


3. The sum of the areas of all management zones in a vegetation zone must equal the 'Area (ha)' field value for the vegetation zone. If you add a second management zone, enter another name and the area, then correct the area entered for the first management zone so the sum of both management zones is equal to the area of the vegetation zone. Click 'Add zone', and then 'OK'.





4. The management zones are displayed in the 'Vegetation zones (Future vegetation integrity score)' section. The composition, structure and function scores can be modified (from zero) for the management zone where only partial loss will occur.

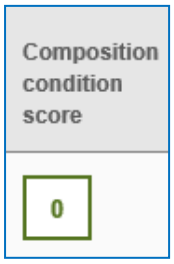


5.3.5 Calculate the future vegetation integrity score

In the 'Vegetation zones (Future vegetation integrity score)' section, 'Composition condition score', 'Structure condition score', 'Function condition score' and 'Vegetation integrity (VI) score' default to a score of zero.

The VI score is an estimate of the future condition of the site when compared to the benchmark score. For any area where partial loss (not full loss) is expected to occur, the future VI score can be modified from zero to display the expected VI score after development/clearing. Refer to Subsection 4.1.2 of the *Biodiversity Assessment Method 2020 Operational Manual – Stage 2* for information on how to generate future VI scores.

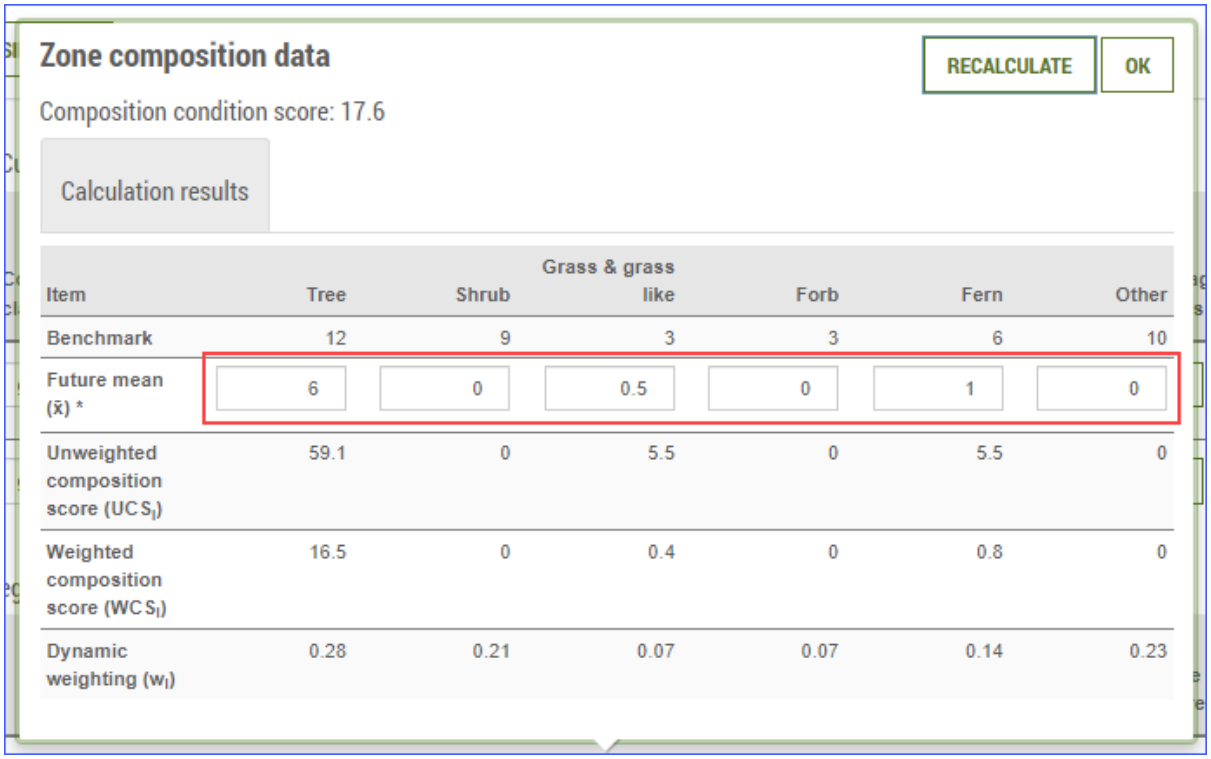
1. To enter an expected future condition score to reflect partial loss of VI, select the 'Composition condition score' field.



Tip

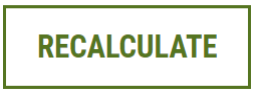
- Unless assuming a partial loss of VI, there is no need to enter data in the 'Future vegetation integrity score' section. The BAM-C assumes a zero value for future observations.

2. Enter a value greater than zero in the relevant 'Future mean ($\bar{x}$)' fields.

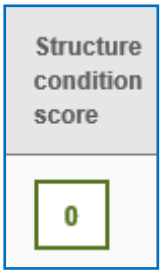


Item	Tree	Shrub	Grass & grass like	Forb	Fern	Other
Benchmark	12	9	3	3	6	10
Future mean ($\bar{x}$) *	6	0	0.5	0	1	0
Unweighted composition score (UCS_l)	59.1	0	5.5	0	5.5	0
Weighted composition score (WCS_l)	16.5	0	0.4	0	0.8	0
Dynamic weighting (w_l)	0.28	0.21	0.07	0.07	0.14	0.23

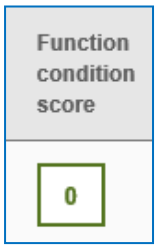
3. Click 'Recalculate' to prompt calculation of the composition score for the zone.



4. Click 'OK'.
5. To enter an expected future condition score to reflect partial loss of VI for structure condition, select the 'Structure condition score' field and follow steps 2–4 above.



6. To enter an expected future condition score to reflect partial loss of VI for function condition, select the ‘Function condition score’ field and follow steps 2–4 above.



7. After completing the composition, structure and function calculations, the BAM-C will display the future VI score and the change in VI score (the difference between the current and future VI scores).

8. When all required information has been entered, click ‘Next’ to move to Tab 4.

Tip

- Save your assessment regularly to ensure data is not lost.

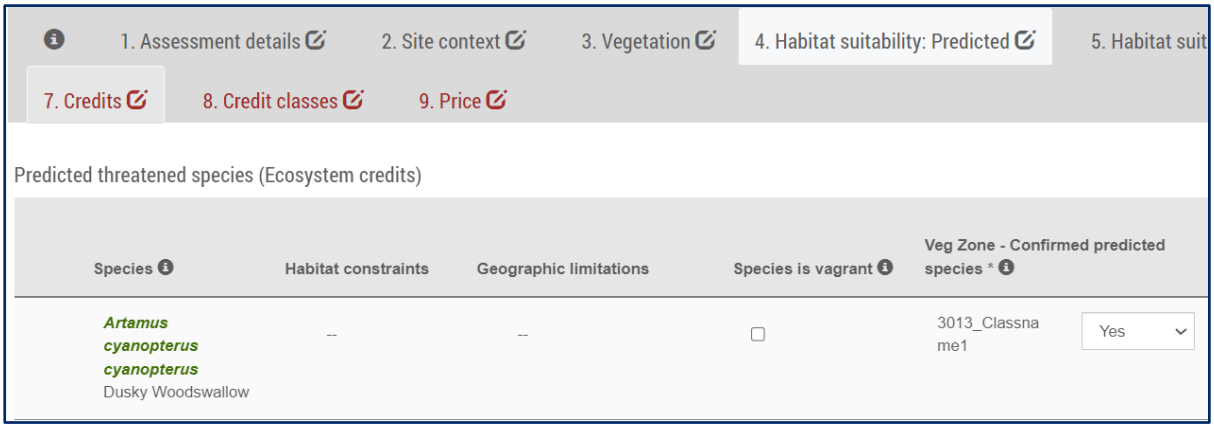
5.4 Habitat suitability: Predicted (Tab 4)

The ‘Habitat suitability: Predicted’ tab is used to confirm the threatened ecosystem credit species that are predicted to occur on or use the site. Ecosystem credit species are threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features, or that have a low probability of detection using targeted surveys. The TBDC identifies the threatened species assessed for ecosystem credits and the BAM-C automatically populates the list of ecosystem credit species. Targeted survey is not required to identify or confirm the presence of ecosystem credit species.

Species are predicted for a vegetation zone based on criteria in BAM 2020 (Subsection 5.2.1, Step 1). The BAM-C displays species satisfying these criteria.

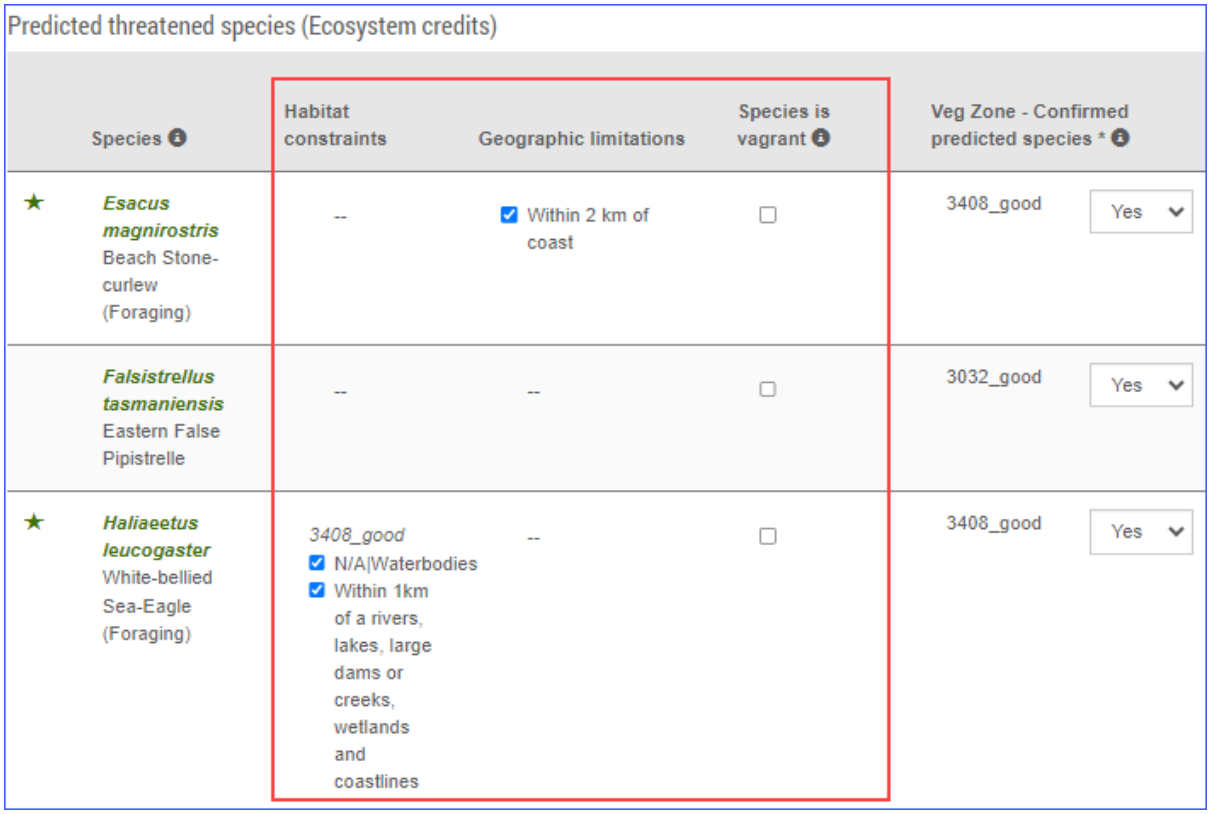
Criteria for small area assessments are the same as for other development or clearing assessments. You must review the automatically populated information alongside BAM 2020, Subsections 5.2.1–5.2.2 to confirm the predicted species for assessment.

The information required in Tab 4 is displayed below.



1. The ‘Habitat suitability: Predicted’ tab will be open if ‘Next’ was clicked on Tab 3. When reopening an assessment with existing information, click on Tab 4 to open it.

2. Review the ‘Habitat constraints’, ‘Geographic limitations’ and ‘Species is vagrant’ checkboxes relevant to each species to confirm that the indicated options are relevant to the site (BAM 2020, Subsections 5.2.1 and 5.2.2):
   a. If the indicated ‘Habitat constraints’ or ‘Geographic limitations’ options are not relevant, the box should be unchecked.
   b. In limited circumstances, a species may appear in the populated list due to a vagrant individual recorded in the IBRA subregion. In most cases, vagrant sightings will be marked as such on the BioNet Atlas and will not be included in the BAM-C. If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, the checkbox should be ticked.

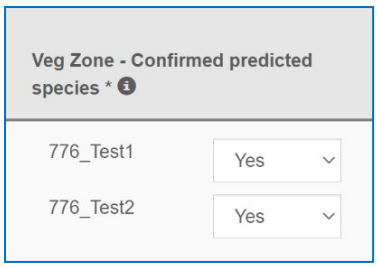


Note: An asterisk beside a species name indicates the species has been added to the assessment, either as a new assessment or because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover or patch size.

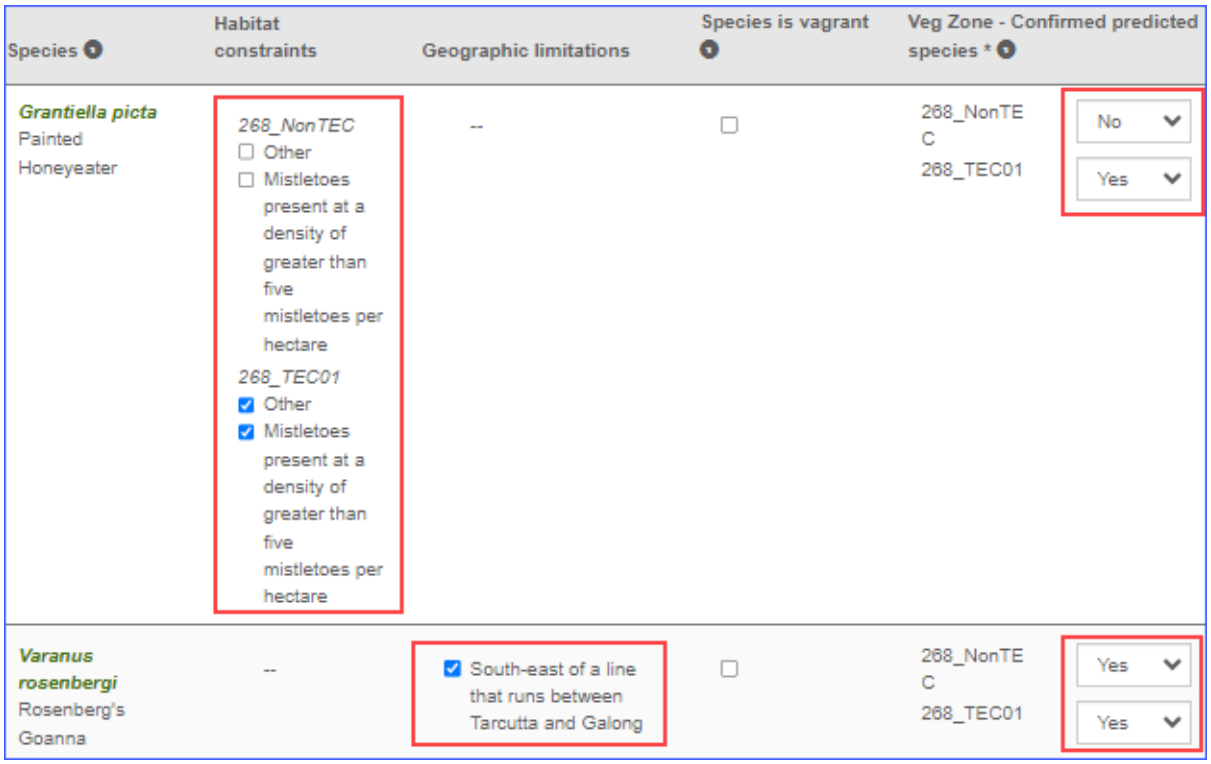
Tip

- Further details on habitat constraints (including 'other' category) and geographic limitations are on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).
- If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox. Please send supporting justification to the BOS Help Desk so the species can be reviewed.
- Hover over the information icon to see cross-references to information available in the BAM for 'Species is vagrant', 'Veg Zone – Confirmed predicted species' and 'Sensitivity to gain'.

3. The 'Confirmed predicted species' default setting for development/clearing assessments is 'Yes' if:
   a. all indicated 'Geographic limitations' and 'Habitat constraints' remain checked
   b. 'Species is vagrant' is unchecked.



4. If a predicted species has habitat constraint(s) and is associated with more than one vegetation zone, the BAM-C displays a habitat constraint for each zone, allowing you to retain a contraint for one zone and not another. Any geographic limitation applies to all zones.



Tip

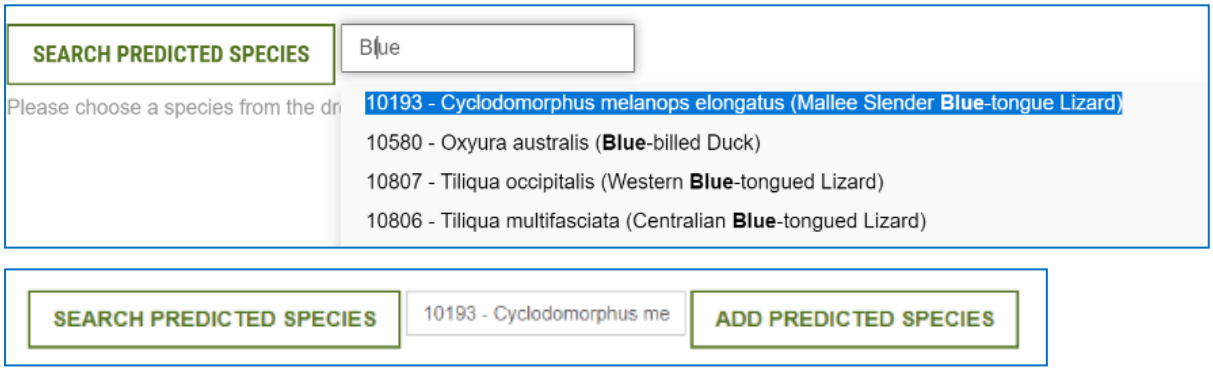
- Confirmed predicted species are assessed for ecosystem credits.

5. The 'Sensitivity to gain class', 'BC Act listing status' and 'EPBC Act listing status' will populate automatically but Tab 4 does not display the species' SAII status.

Sensitivity to gain class	BC Act listing status	EPBC Act listing status.
High Sensitivity to Gain	Critically Endangered	Critically Endangered
Moderate Sensitivity to Gain	Vulnerable	Not Listed
Moderate Sensitivity to Gain	Vulnerable	Endangered

6. To add an ecosystem credit species that is not in the list generated by the BAM-C, click ‘Search predicted species’ at the bottom of the page, and enter the species’ name or profile ID.

   Any matching species will be presented in a list. Select the species’ name and click ‘Add predicted species’.



7. When a species is added, an ‘X’ will appear to the left of the species’ name, indicating this species has been added by the assessor. This species can be removed by clicking on the ‘X’.

8. When all required information has been entered, click ‘Next’ to move to Tab 5.

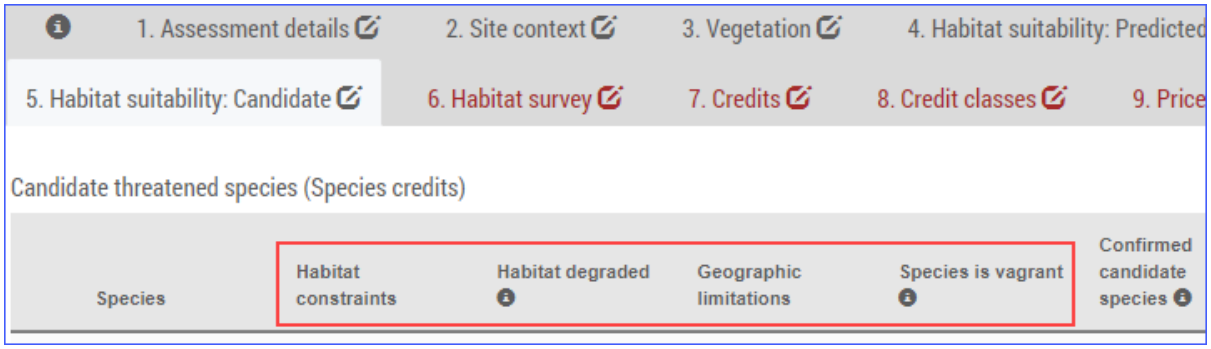
5.5 Habitat suitability: Candidate (Tab 5)

The 'Habitat suitability: Candidate' tab is used to confirm the threatened species credit species that may occur on or use the site. Species credit species are those where the likelihood of occurrence of a species or elements of suitable habitat for that species cannot be confidently predicted by vegetation surrogates and landscape features, and can be reliably detected by survey.

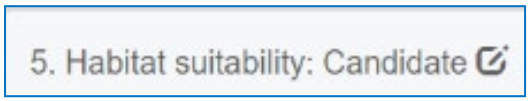
The candidate species list is populated automatically based on criteria in BAM 2020 (Subsection 5.2.1, Step 1) but is limited to displaying species that are at risk of serious and irreversible impacts (SAII). These species have a status of SAII in the TBDC. Any additional threatened species, regardless of their SAII status, which are identified on the site (that is, incidentally observed during a site visit) must be manually added to the species list at Tab 5.

You must review the automatically populated information alongside BAM 2020, Subsections 5.1.2–5.2.3, to confirm the candidate species for assessment.

The information required for Tab 5 is displayed below.



1. As 'Next' was clicked after completion of Tab 4 the 'Habitat suitability: Candidate' tab will be open. When reopening an existing assessment, click on Tab 5 to open it.

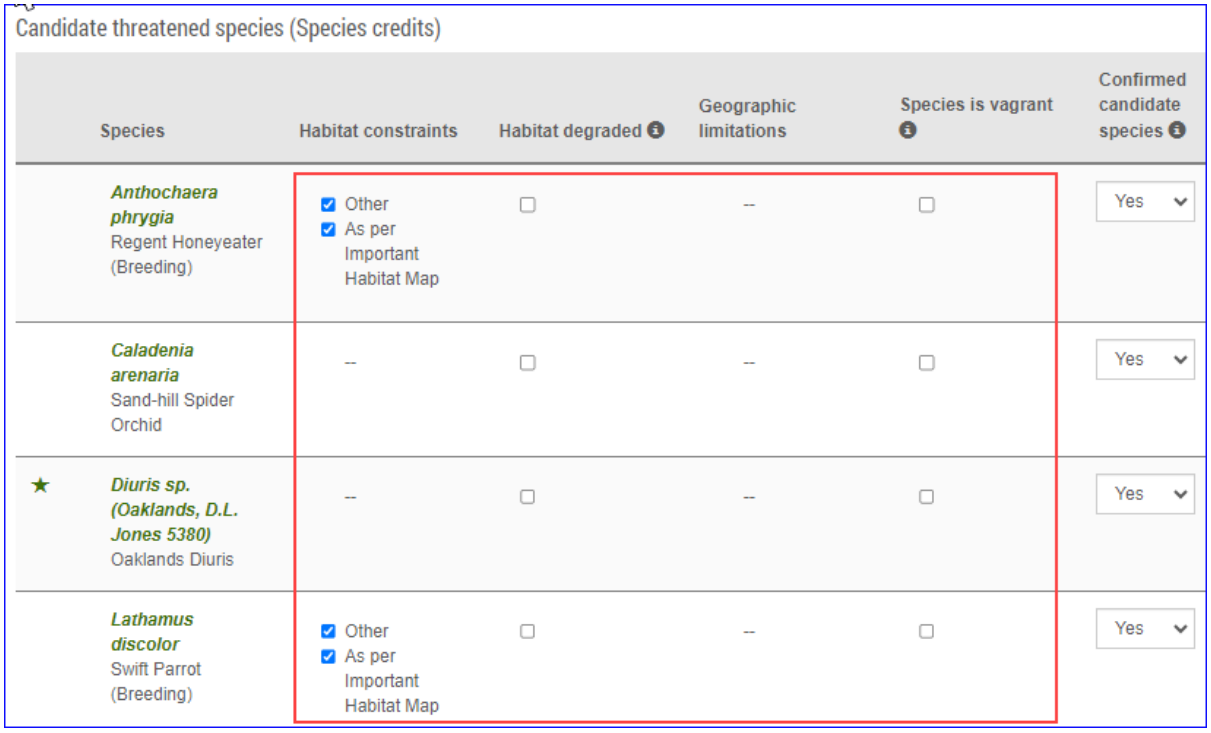


2. The BAM-C candidate species list will only display species that are at risk of an SAII.

Tip

- Small area assessments will only display species credit species at risk of an SAII.
- Refer to *Serious and irreversible impacts of development on biodiversity* for the current SAII species list (see Appendix B).

3. Review the ‘Habitat constraints’, ‘Habitat degraded’, ‘Geographic limitations’ and ‘Species is vagrant’ checkboxes relevant to each species to confirm that the indicated options are relevant to the site (BAM 2020, Subsections 5.2.1–5.2.3):
    a. If the indicated ‘Habitat constraints’ or ‘Geographic limitations’ options are not relevant, the box should be unchecked.
    b. If the ‘Habitat degraded’ option is relevant, that is, the habitat or microhabitat is degraded to the point that the species is unlikely to use the site, the box should be checked.
    c. In limited circumstances, a species may appear in the populated list due to a vagrant individual recorded in the IBRA subregion. In most cases, vagrant sightings will be marked as such on the BioNet Atlas and will not be included in the BAM-C. If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the ‘Species is vagrant’ checkbox.



Candidate threatened species (Species credits)

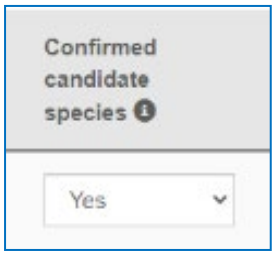
	Species	Habitat constraints	Habitat degraded	Geographic limitations	Species is vagrant	Confirmed candidate species
	Anthochaera phrygia Regent Honeyeater (Breeding)	☑ Other ☑ As per Important Habitat Map	☐	--	☐	Yes
	Caladenia arenaria Sand-hill Spider Orchid	--	☐	--	☐	Yes
★	*Diuris sp. (Oaklands, D.L. Jones 5380)* Oaklands Diuris	--	☐	--	☐	Yes
	Lathamus discolor Swift Parrot (Breeding)	☑ Other ☑ As per Important Habitat Map	☐	--	☐	Yes

Note: An asterisk beside a species name indicates the species has been added to the assessment because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover or patch size.

Tip

- If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the ‘Species is vagrant’ checkbox. Please send supporting justification to the BOS Help Desk so the species can be reviewed.
- Further details on habitat constraints (including the ‘other’ category) and geographic limitations can be found on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).

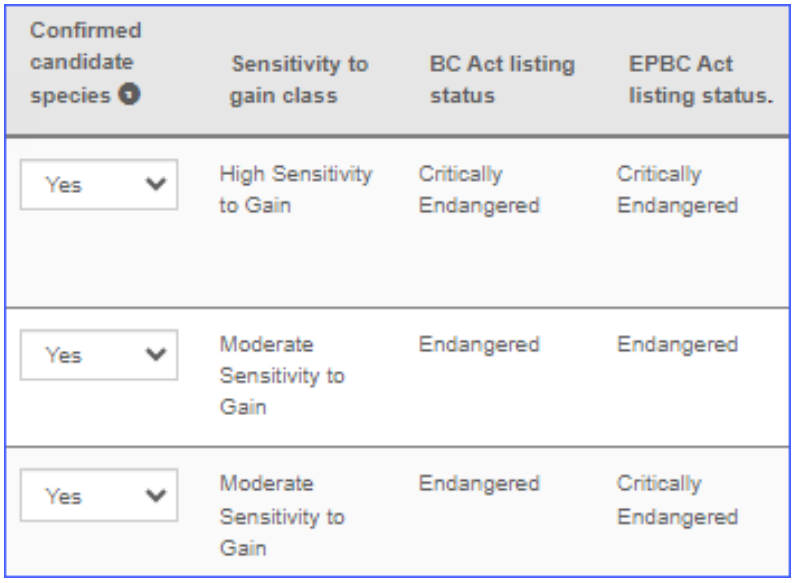
4. The ‘Confirmed candidate species’ default setting for development/clearing assessments is ‘Yes’ if:
   a. all indicated ‘Geographic limitations’ and ‘Habitat constraints’ remain checked
   b. ‘Species is vagrant’ and ‘Habitat degraded’ are unchecked.



Tip

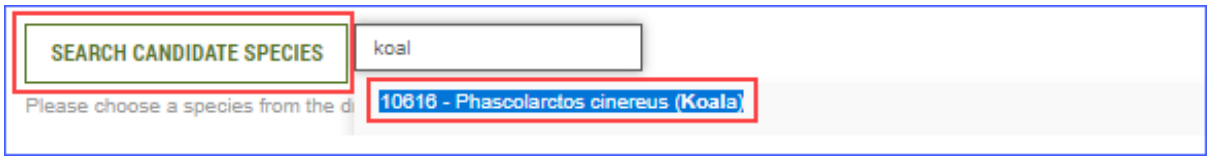
- Confirmed candidate species are assessed for species credits.

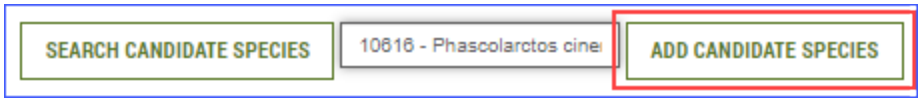
5. The ‘Sensitivity to gain class’, ‘BC Act listing status’ and ‘EPBC Act listing status’ will populate automatically, however, Tab 5 does not display the species’ SAII status. SAII status is displayed in the Tab 7 ‘Potential SAII’ field.



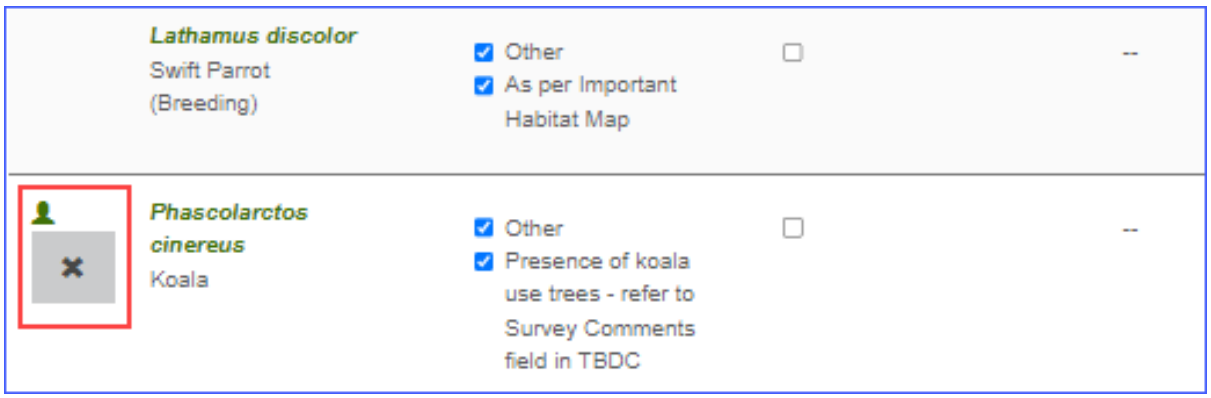
6. Any threatened species, regardless of SAII status, which is incidentally observed while at the site but is not in the list generated by the BAM-C, must be manually added. Click ‘Search candidate species’ at the bottom of the tab page and enter the species’ name.

   Any matching species will be presented in a list. Select the species’ name and click ‘Add candidate species’.





7. When a species is added, an ‘X’ will appear to the left of the species’ name, indicating this species has been added by the assessor. This species can be removed by clicking on the ‘X’.

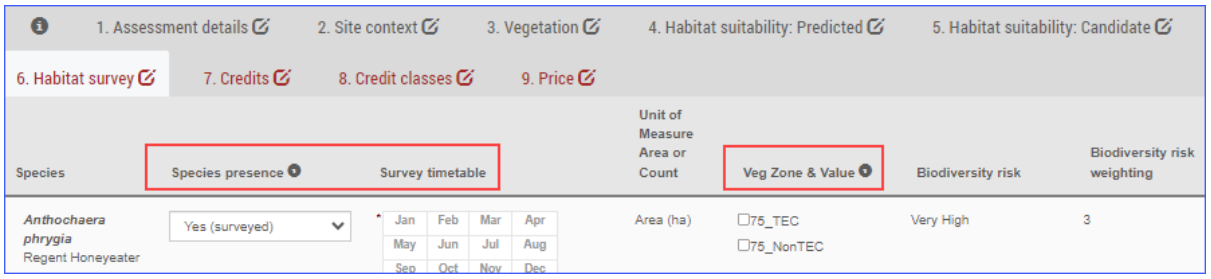


8. When all required information has been entered, click ‘Next’ to move to Tab 6.

5.6 Habitat survey (Tab 6)

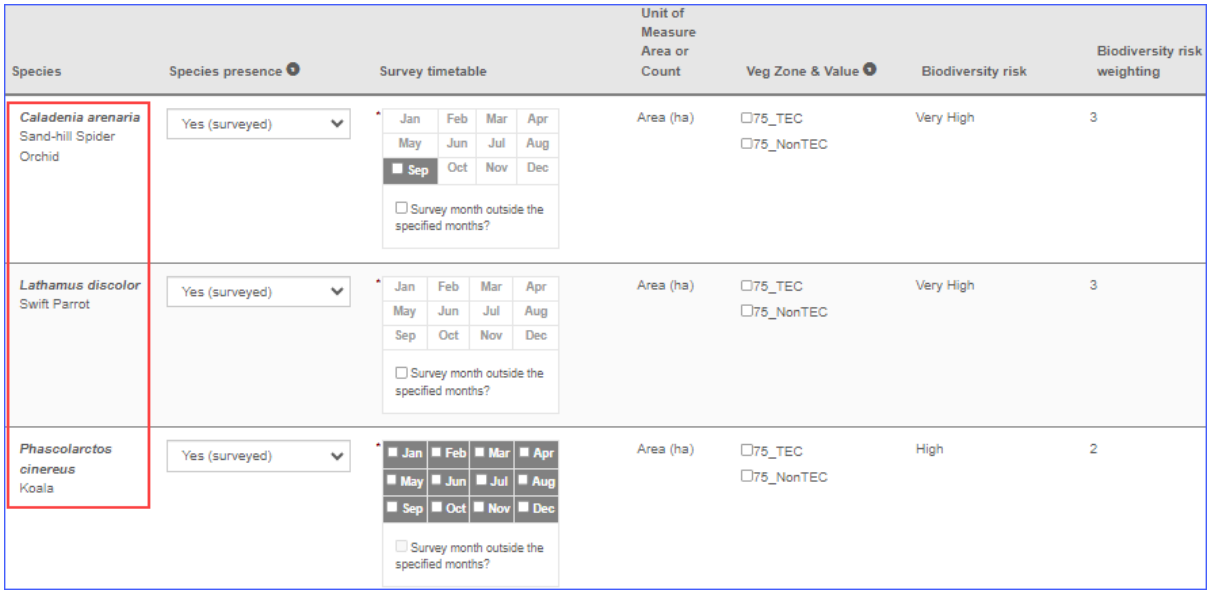
The ‘Habitat survey’ tab is used to record if a candidate credit species is present at the clearing/development site (BAM 2020, Subsection 5.2.4 to Section 5.4) and whether its presence/absence was determined by survey, expert report or assumed presence.

The steps to complete Tab 6 are described below.

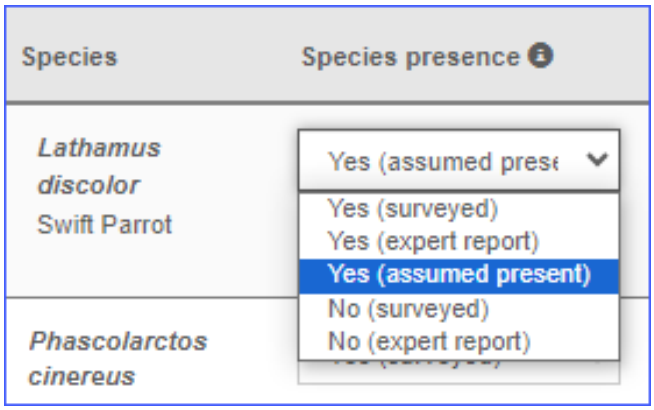


1. As ‘Next’ was clicked after completion of Tab 5, the ‘Habitat survey’ tab will be open. When reopening an existing assessment, click on Tab 6 to open it.

2. The list of candidate species from Tab 5 ‘Habitat suitability: Candidate’ that were confirmed as potentially present based on the habitat and geographic limitations are listed in Tab 6. This includes any species that were manually added to Tab 5.



3. ‘Species presence’ automatically defaults to ‘Yes (surveyed)’. You can change how presence was confirmed using the drop-down. Options are ‘Yes (surveyed)’, ‘Yes (expert report)’ or ‘Yes (assumed present)’. Alternatively, if the species is identified as absent based on either survey or an expert report, options are ‘No (surveyed)’ or ‘No (expert report)’.
4. For a small number of species, the habitat constraint information in the TBDC refers to an important habitat map. If one of these species is being assessed, and the assessment area is wholly or partially within a mapped layer identified on an important habitat map, the species must be considered present (‘Yes (assumed present)’). If the assessment area does not overlap any mapped layer, the species credit species is considered absent (‘No (surveyed)’). Include reference to the important habitat map in the BAR.

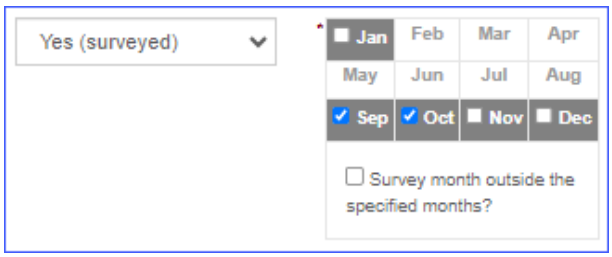


Tip

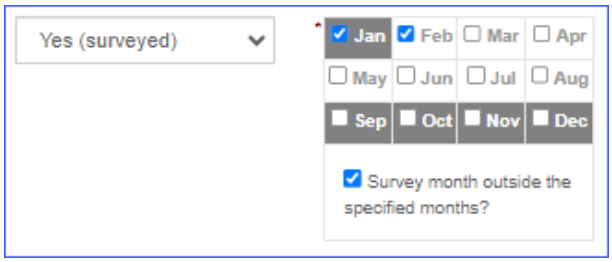
- Where ‘Yes (surveyed)’, Yes (expert report)’ or ‘Yes (assumed present)’ has been selected, the ‘Veg Zone and Value’ column becomes editable.

5. If a species was surveyed for, use the checkboxes in the ‘Survey timetable’ field to indicate when the survey(s) were undertaken. The survey method must comply with

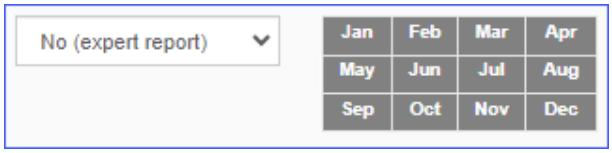
any threatened species survey guides or advice that the department has published or provided within the TBDC. In the absence of any guide or advice, use a best-practice method.



6. Only survey during a month specified in the BAM-C unless there is a clear justification to survey outside the specified month(s). If the survey was conducted during a month outside the specified month(s), select 'Survey month outside the specified months', then use the checkboxes to indicate the month(s) that the survey was undertaken.



7. If 'Yes (expert report)', 'Yes (assumed present)' or 'No (expert report)' is selected in the 'Species presence' field, there is no option to select a month.



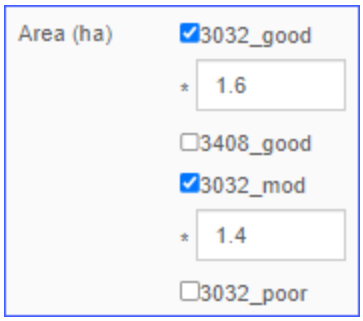
8. The UoM, 'Biodiversity risk' and 'Biodiversity risk weighting' for each species is displayed but cannot be edited.
9. For each species identified as present, tick the checkboxes under 'Veg Zone & Value' for all vegetation zones the species has been identified as being present within.

Tip

- See BAM 2020, Appendix I for further information on BRW.
- A species can be identified as present in multiple vegetation zones.

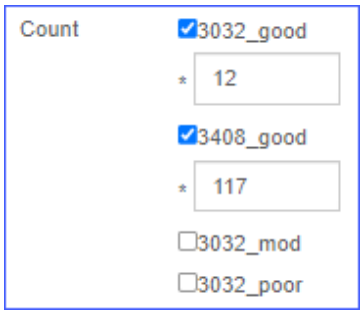
10. Enter the value that quantifies the species' distribution, noting that the value entered will differ depending on the UoM:
    a. Where the UoM is 'Area (ha)' enter the area of the species polygon. The development of the polygon must comply with any threatened species survey

guides or advice that the department has published or provided within the TBDC. In the absence of any guide or advice, use best practice.



If the assessment area is wholly or partially within a mapped layer identified on an important habitat map, the species polygon must include the entire area of the zone that is mapped on the important habitat map.

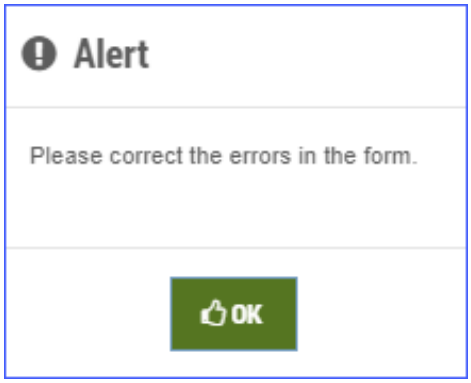
b. Where the UoM is 'Count', enter the number of individuals within the species polygon (an individual is defined in the BAM 2020 as 'a single, mature organism that is a threatened species').



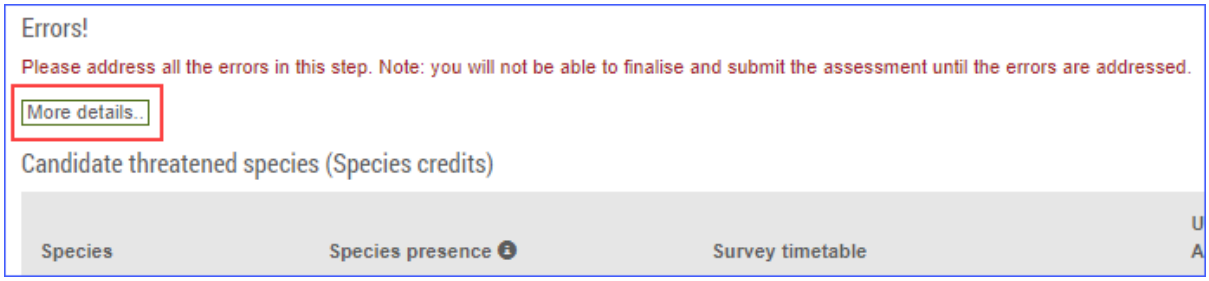
Tip

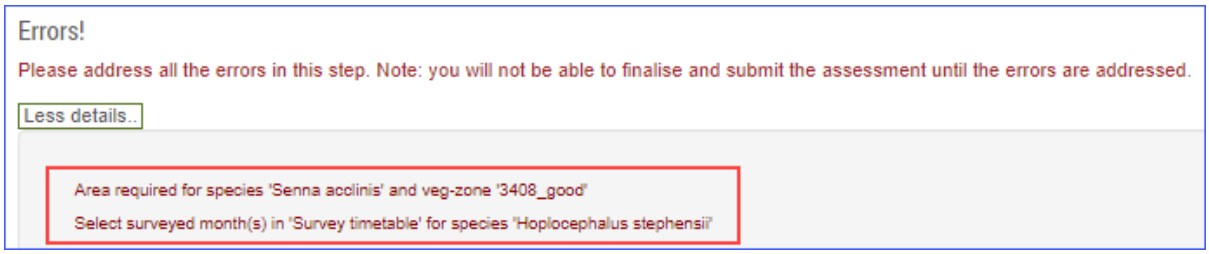
- The minimum area that can be entered in BAM-C is 0.01 ha. If the area is between 0.005 ha and 0.009 ha the BAM-C will round the value up to 0.01 ha.
- Below 0.005 ha, values will be rounded to 0 ha and the assessment will not save. In this scenario either combine the area with another area, or enter the area as 0.01 ha.
- The maximum area that can be entered in BAM-C is the area of the vegetation zone from Tab 3.

11. When you click 'Next', an alert will display if any required fields have not been completed.



12. Details of any errors will be listed in a message at the top of the page. Click the ‘More details’ box for further details.





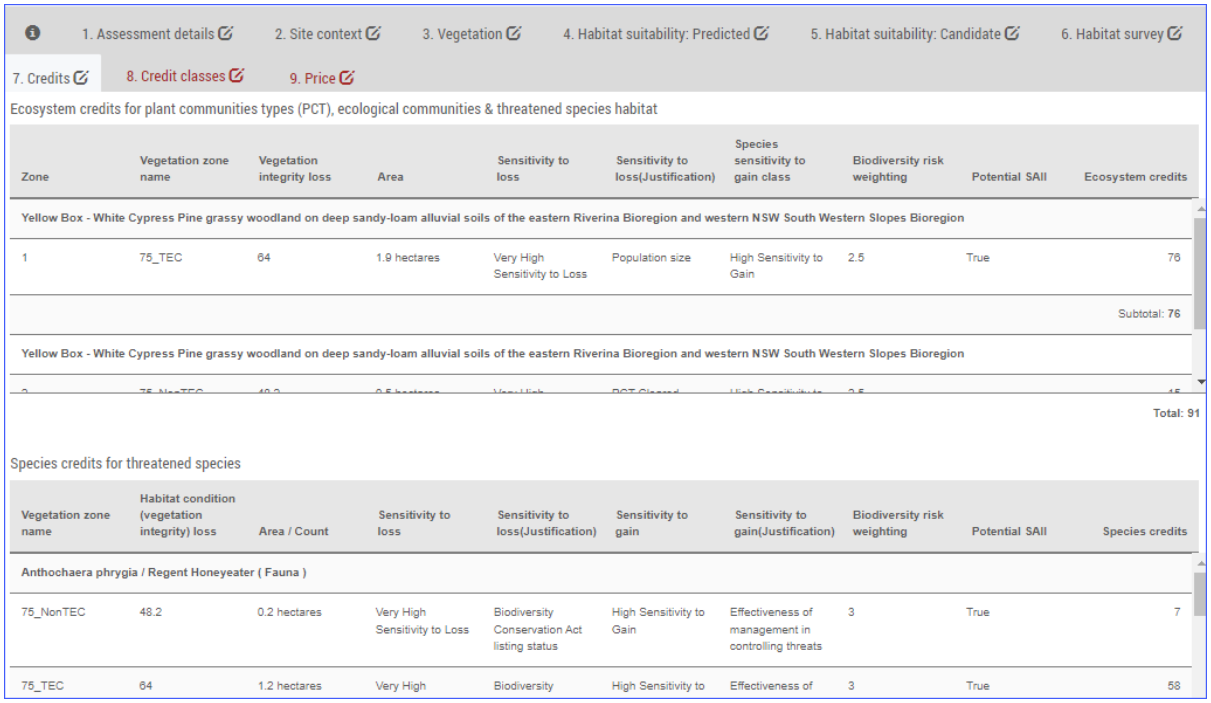
13. When all required information has been entered, click ‘Next’ to move to Tab 7.

5.7 Credits (Tab 7)

The BAM 2020 uses biodiversity credits to measure the residual impacts of a proposal on biodiversity values.

The 'Credits' tab summarises the results of calculations of biodiversity credits. No user action is required for Tab 7.

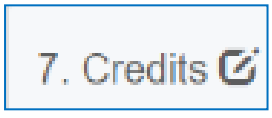
Further details on the calculations performed are in Subsections 5.7.6 and 5.7.7 below.



Tip

- Despite the biodiversity credit output displayed for any EPBC Act only listed entity, biodiversity credits cannot be created or traded under the NSW scheme, and payments cannot be made into the BCF for any EPBC Act only listed entity.
- Contact the Australian Government Department of Climate Change, Energy, the Environment and Water as the relevant agency for meeting any requirements of an EPBC Act approval.
- 'EPBC Act only' listed entity means a 'threatened species' or 'threatened ecological community' that is listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), but not listed under *the Biodiversity Conservation Act 2016* (NSW).

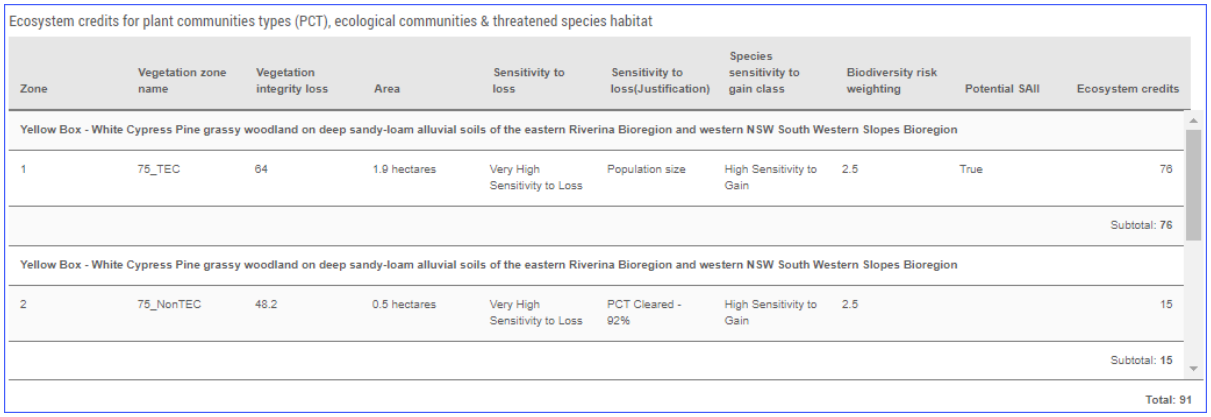
1. As 'Next' was clicked after completion of Tab 6 the 'Credits' tab will be open. When reopening an existing assessment, click on Tab 7 to open it.



5.7.6 Ecosystem credits for PCTs, TECs and threatened species habitat

The first section of Tab 7 displays the ecosystem credits for the PCTs and TECs. The ecosystem credits are calculated by applying the 'Sensitivity to loss' of the PCT or TEC and the highest 'Sensitivity to gain' of the ecosystem credit (predicted) species assumed to be present at Tab 4 ('Veg Zone – Confirmed predicted species' = 'Yes'). Where a PCT or TEC provides no habitat for ecosystem credit species, the BAM-C adopts a 'Sensitivity to gain' of 'Low'. Refer to the BAM 2020, Appendix I for more information.

The BAM-C uses the loss to VI based on the impact, the area of the vegetation zone, the BRW, and a constant, to calculate the number of ecosystem credits for each vegetation zone added at Tab 3. Refer to Equation 1 in the BAM 2020 for more information.



Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss	Area	Sensitivity to loss	Sensitivity to loss(Justification)	Species sensitivity to gain class	Biodiversity risk weighting	Potential SAII	Ecosystem credits
Yellow Box - White Cypress Pine grassy woodland on deep sandy-loam alluvial soils of the eastern Riverina Bioregion and western NSW South Western Slopes Bioregion									
1	75_TEC	64	1.9 hectares	Very High Sensitivity to Loss	Population size	High Sensitivity to Gain	2.5	True	76
								Subtotal: 76	
Yellow Box - White Cypress Pine grassy woodland on deep sandy-loam alluvial soils of the eastern Riverina Bioregion and western NSW South Western Slopes Bioregion									
2	75_NonTEC	48.2	0.5 hectares	Very High Sensitivity to Loss	PCT Cleared - 92%	High Sensitivity to Gain	2.5		15
								Subtotal: 15	
								Total: 91	

Tip

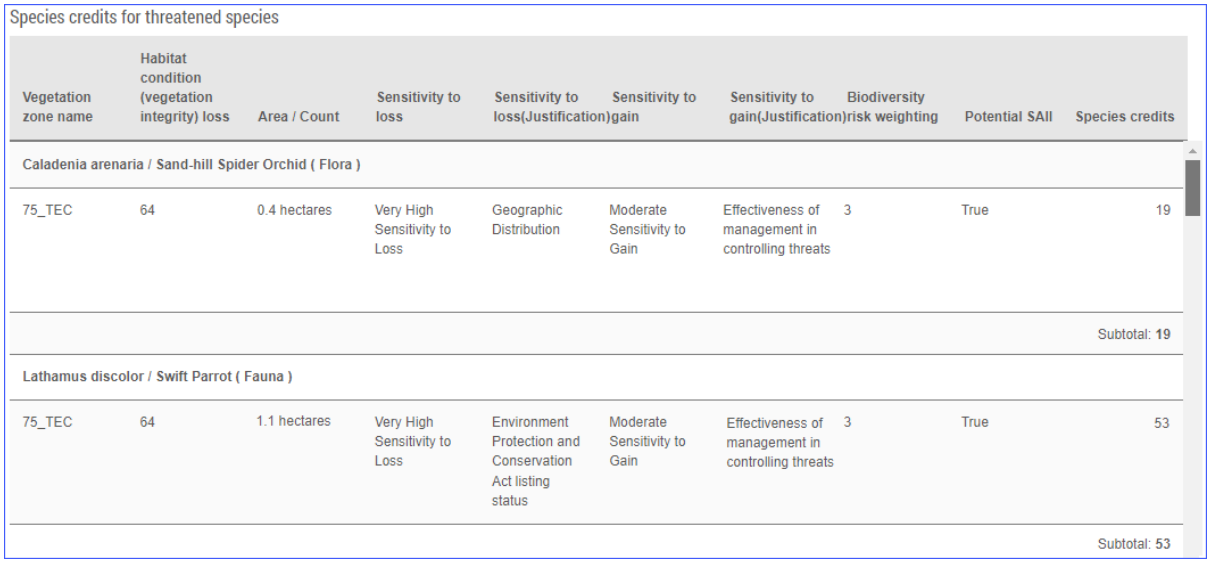
- Use the scroll bar to see all ecosystem credits.
- See BAM 2020, Sections 5.1 and 5.2 for further information on ecosystem credit species.
- See BAM 2020, Subsections 10.1.1–10.1.2 and 10.2.1 for the calculation method of ecosystem credits.
- See BAM 2020, Appendix I for more information on BRW.

5.7.7 Species credits for threatened species

The second section of Tab 7 displays the species credits for threatened species that cannot be predicted to occur at a site based on the vegetation (PCT), and have been confirmed present at the site (Tab 6 'Species presence' = 'Yes').

For species with a UoM of 'Area', the BAM-C uses the loss to VI based on the impact, the area of the vegetation zone, the BRW, and a constant, to calculate the number of species credits for each vegetation zone (PCT) added at Tab 3 that is associated with the species. Refer to Equation 2 in the BAM 2020 for more information.

For species with a UoM of 'Count', the BAM-C uses the number of individuals and the BRW to calculate the number of species credits. Refer to Equation 3 in the BAM 2020 for more information.



Species credits for threatened species

Vegetation zone name	Habitat condition (vegetation integrity) loss	Area / Count	Sensitivity to loss	Sensitivity to loss(Justification)	Sensitivity to gain	Sensitivity to gain(Justification)	Biodiversity risk weighting	Potential SAII	Species credits
Caladenia arenaria / Sand-hill Spider Orchid (Flora)									
75_TEC	64	0.4 hectares	Very High Sensitivity to Loss	Geographic Distribution	Moderate Sensitivity to Gain	Effectiveness of management in controlling threats	3	True	19
									Subtotal: **19**
Lathamus discolor / Swift Parrot (Fauna)									
75_TEC	64	1.1 hectares	Very High Sensitivity to Loss	Environment Protection and Conservation Act listing status	Moderate Sensitivity to Gain	Effectiveness of management in controlling threats	3	True	53
									Subtotal: **53**

Tip

- Use the scroll bar to see all species credits.
- In some circumstances, the TBDC may identify a threatened species that requires assessment for both ecosystem credits and species credits (referred to as dual credit species). For dual credit species, part of the habitat is assessed as a species credit (for example, breeding habitat or land mapped on an important habitat map layer). The remaining habitat for the species is assessed as an ecosystem credit (for example, foraging habitat).
- Equations for the calculation of species credits differ depending on their UoM.
- See BAM 2020, Chapter 5 for further information on species credits.
- See BAM 2020, Subsections 10.1.1, 10.1.3 and 10.2.2 for the calculation method for species credits.
- See BAM 2020, Appendix I for more information on BRW.

No user action is required for Tab 7 and there is no 'Next' button. Click on Tab 8 'Credit classes' to open it.

5.8 Credit classes (Tab 8)

The BAM 2020 uses OTGs to offset non-threatened vegetation (PCTs). OTGs are groups of PCTs with the same vegetation class and threat status. Under the like-for-like rules, offsets for impacts to non-threatened vegetation may be met with one or more OTGs that have the same vegetation class with the same or a higher threat status.

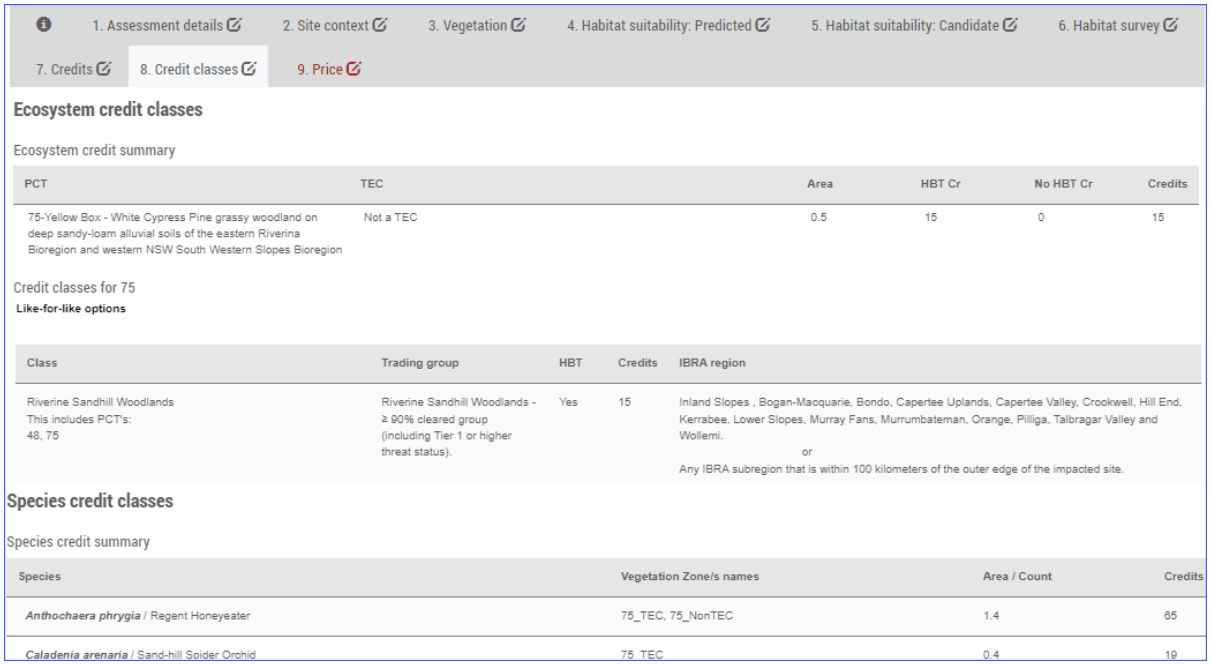
Under the like-for-like rules, threatened vegetation (TECs) and threatened species must be offset with the same TEC/species.

Vegetation containing HBT must be offset with vegetation containing HBT.

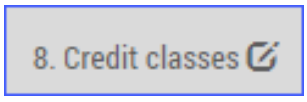
Variation rules may apply.

The ‘Credit classes’ tab summarises the ecosystem and species credits and their like-for-like options.

Further details on the information available in Tab 8 are in Subsections 5.8.8 and 5.8.9 below. No user action is required for Tab 8.



1. Select the ‘Credit classes’ tab to view ecosystem credit class information and species credit class information.

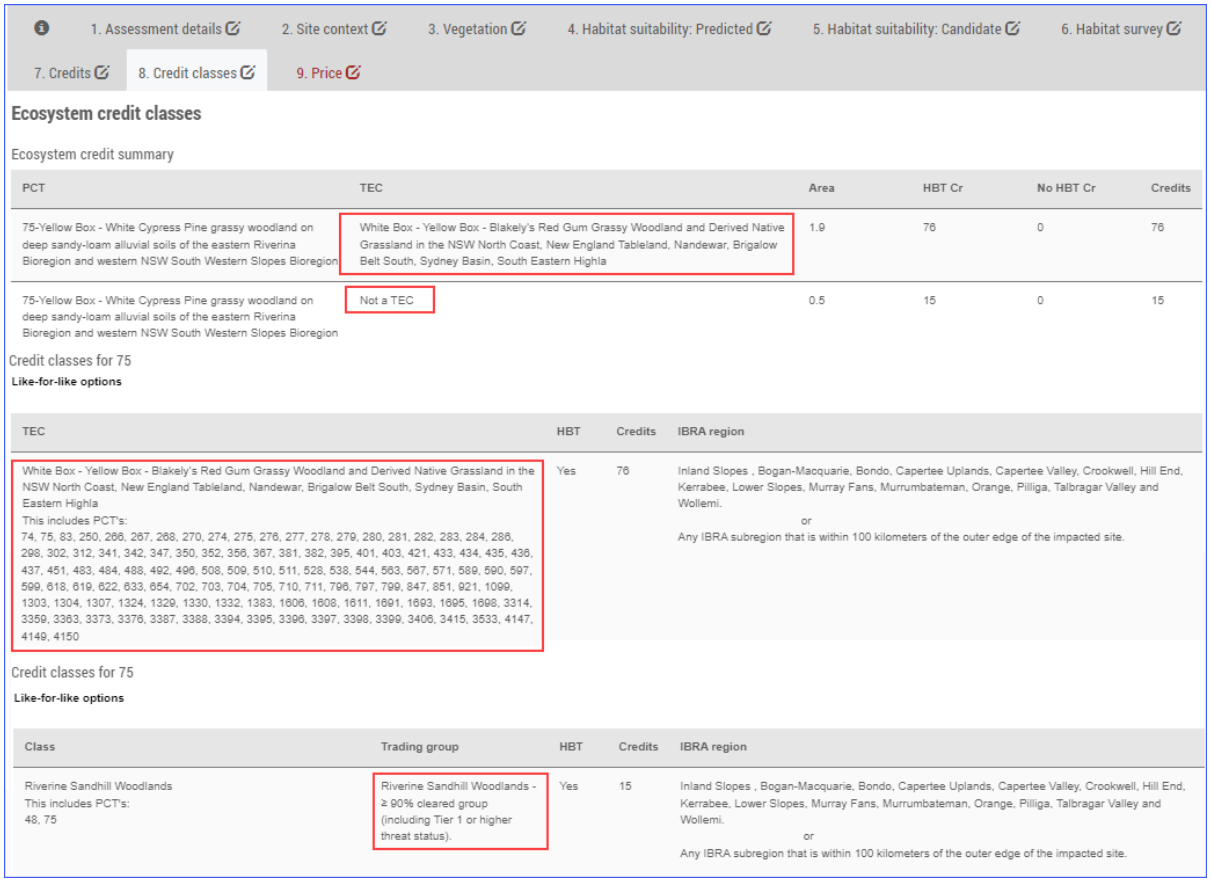


5.8.8 Ecosystem credit classes

The first section of Tab 8 displays a summary of the ecosystem credit classes, whether there is an associated TEC or not, and their like-for-like options based on the PCTs and/or TECs added at Tab 3.

For non-threatened vegetation (‘Not a TEC’), the BAM-C displays the associated vegetation class and lists the PCTs within that class.

The BAM-C also displays the associated OTGs and IBRA subregions available for making a like-for-like credit trade. Refer to the *Offset rules and ecosystem credits* guidance for more information (see Appendix B).

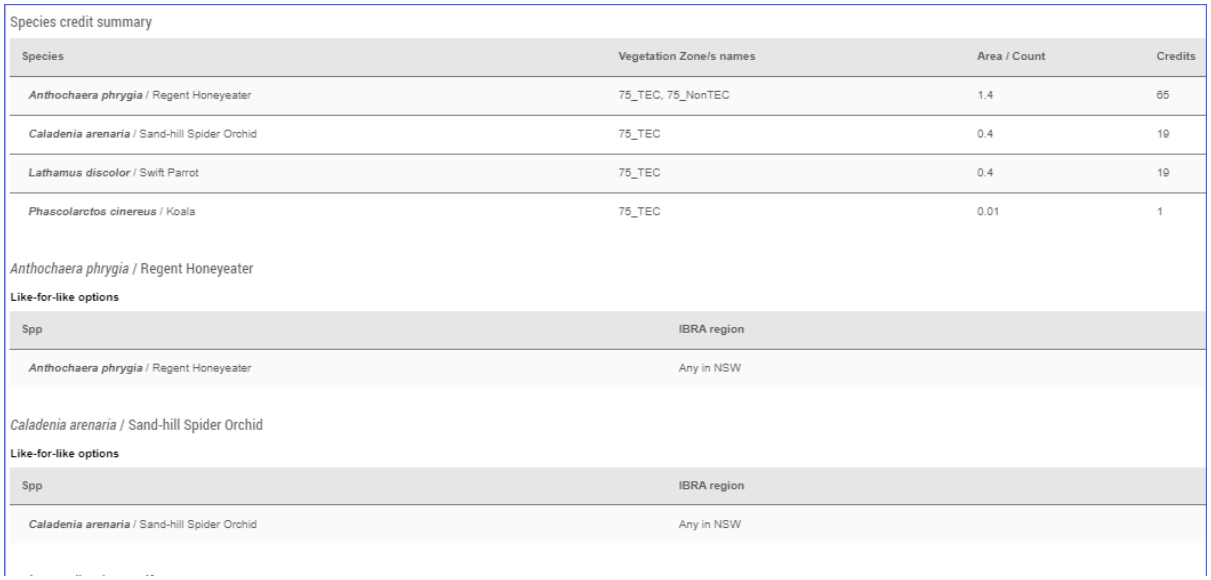


Tip

- See BAM 2020, Subsection 10.2.1 and Section 10.3 for further information on offsetting ecosystem credits.

5.8.9 Species credit classes

The second section of Tab 8 displays a summary of the species credit classes for all candidate species confirmed present at the site, and their like-for-like options.



Species credit summary

Species	Vegetation Zone/s names	Area / Count	Credits
Anthochaera phrygia / Regent Honeyeater	75_TEC, 75_NonTEC	1.4	65
Caladenia arenaria / Sand-hill Spider Orchid	75_TEC	0.4	19
Lathamus discolor / Swift Parrot	75_TEC	0.4	19
Phascolarctos cinereus / Koala	75_TEC	0.01	1

Anthochaera phrygia / Regent Honeyeater

Like-for-like options

Spp	IBRA region
Anthochaera phrygia / Regent Honeyeater	Any in NSW

Caladenia arenaria / Sand-hill Spider Orchid

Like-for-like options

Spp	IBRA region
Caladenia arenaria / Sand-hill Spider Orchid	Any in NSW

Tip

- See BAM 2020, Subsection 10.2.2 and Section 10.3 for further information on offsetting species credits.

5.9 Price (Tab 9)

The BOPC was replaced by the BCF Charge System on 17 October 2022. The new BCF Charge System will now be used to determine the amount a proponent may pay into the BCF to meet a biodiversity offset obligation.

The BCT is responsible for administering the new charge system.

More information about the new charge system, including how to request a quote from the BCT, is available on the BCT website.

6. Creating a scattered trees assessment

'Appendix B: Streamlined assessment module – Scattered trees assessment' of the BAM 2020 is dedicated to assessing trees that meet the definition of 'scattered' and provides streamlined (simplified) assessment requirements.

There are 8 development-type assessments. This chapter only relates to scattered tree assessments. Refer to Chapter 4 for information on assessing general Part 4, Part 5 proposals, major projects, biocertification and general clearing, and Chapter 5 for information on assessing small areas.

There are limitations on when a scattered tree assessment can be used – all the following requirements must be met:

- It meets the BAM 2020 definition of scattered trees, refer to Section 6.1 below for more information.
- None of the trees are listed as a threatened species under either the BC Act or EPBC Act.
- None of the trees provide habitat for candidate (species credit) species (flora or fauna) in accordance with BAM 2020, Chapter 5. This includes species from the candidate species list populated by the BAM-C or any species incidentally observed (or evidence, such as scats or shells) using a tree as habitat.
- None of the trees provide habitat for predicted (ecosystem credit) fauna species in accordance with BAM 2020, Chapter 5, that are at risk of a SAII.
- No part of the canopy of any tree being assessed overlaps a mapped layer on the *Biodiversity Values Map*, important habitat maps, or the sensitive or vulnerable land layers on the *Native Vegetation Regulatory Map*.
- There are no shrubs or tree regrowth (less than 5 cm DBH) within the area of assessment.
- Any native species in the ground cover layer of the assessment area must be listed on the widely cultivated native species list, noting that assessment should be made during the time of year when the proportion of native ground cover is likely to be at its maximum compared to that of exotic ground cover. Refer to *Streamlined assessment module planted native vegetation* for the species list (see Appendix B).

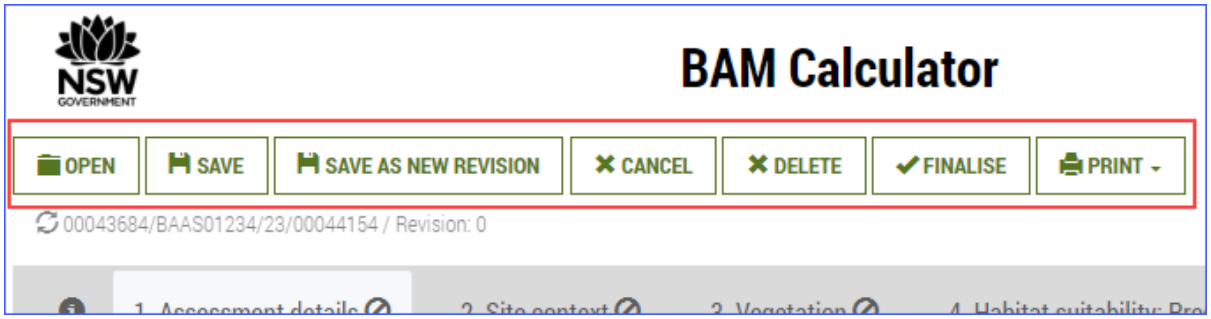
If any of the above limitations are not met, a different assessment pathway must be used to assess the trees. Refer to Chapters 4 and 5 of this guide for alternative development assessment types.

When entering data in each tab, proceed to the next tab by using the 'Next' button at the bottom of the page. The data added then flows through to the next tab in the BAM-C.

Tip

- If the vegetation in the area being assessed as scattered trees does not meet one or more of the scattered tree limitations listed above, use another assessment type in the BAM-C.
- For further information on the scattered trees module see BAM 2020, Appendix B.
- Remember to click 'Next' so the data entered flows through to the subsequent tabs and calculations.
- As tabs are completed it is possible to navigate between completed tabs.

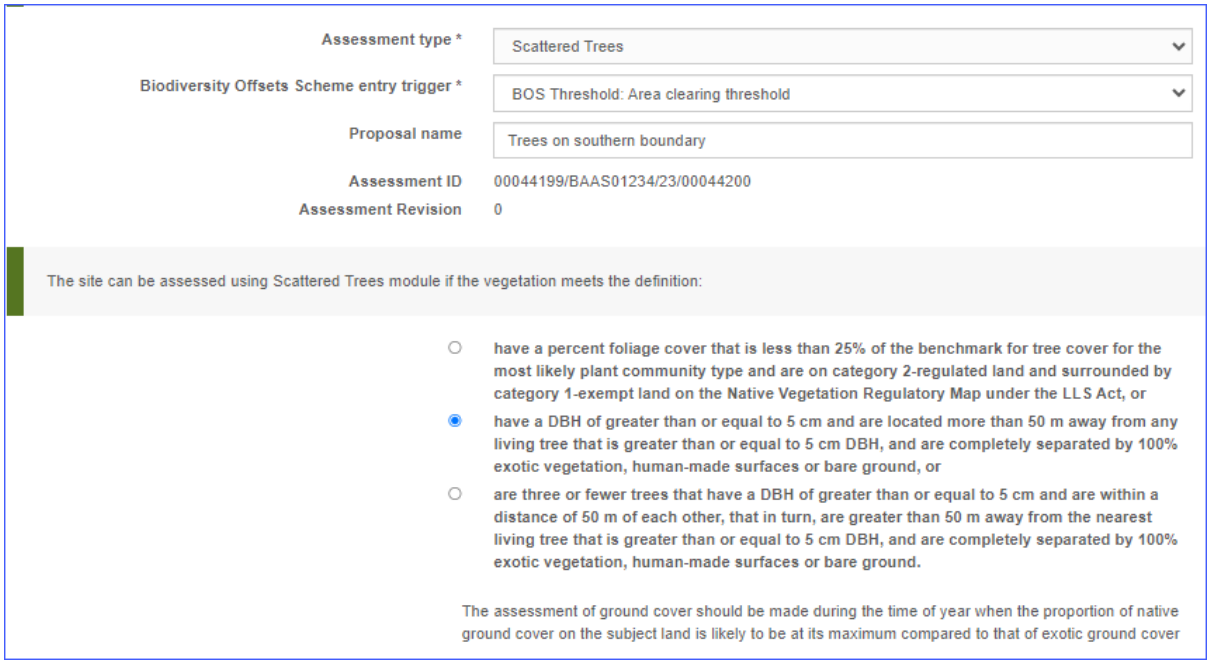
There are high-level functions that act across all tabs to help you manage assessments and create output from the BAM-C. Refer to Chapter 3 of this guide for information on these functions.



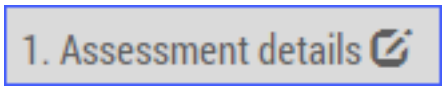
Sections 6.1–6.9 below detail how to use each of the tabs in the BAM-C to enter details for a scattered trees assessment.

6.1 Assessment details (Tab 1)

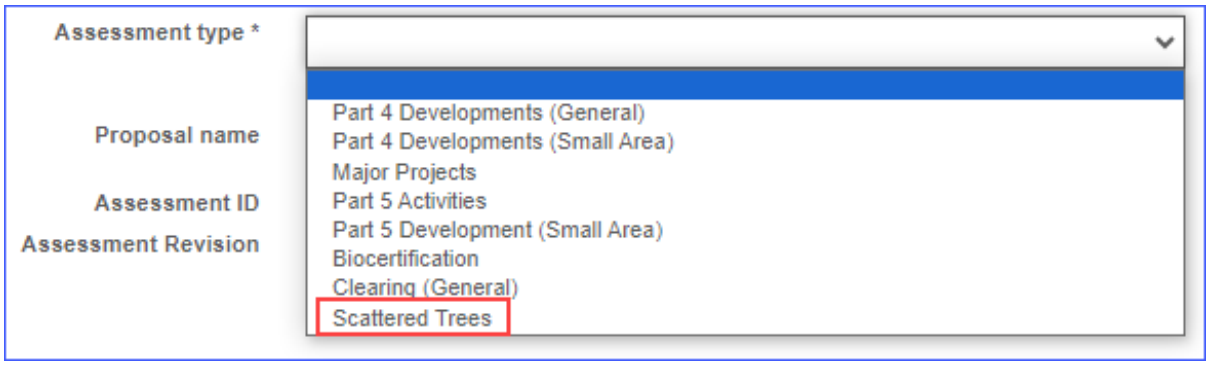
The 'Assessment details' tab is used to capture the type of development assessment being conducted, record the proposal name, and how the assessment proposal meets the definition of scattered trees as per Appendix B.1 of BAM 2020.



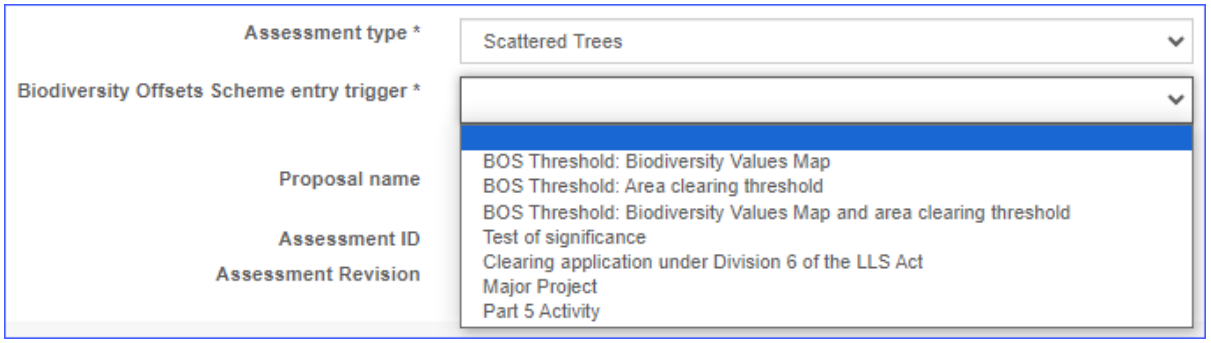
1. Click on the ‘Assessment details’ tab to enter assessment details.



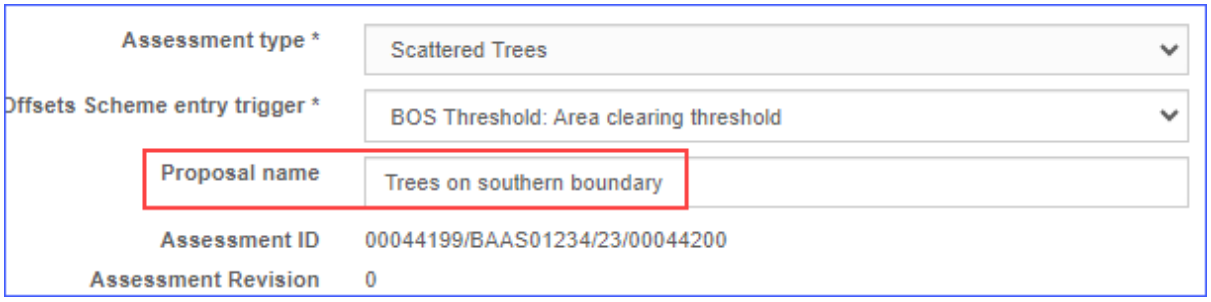
2. Use the ‘Assessment type’ drop-down to select ‘Scattered Trees’.



3. Use the ‘Biodiversity Offsets Scheme entry trigger’ drop-down to select the required entry trigger. For more information on the entry trigger, refer to the *When does the Biodiversity Offsets Scheme apply?* webpage (see Appendix B).



4. Add a unique description into the ‘Proposal name’ field.

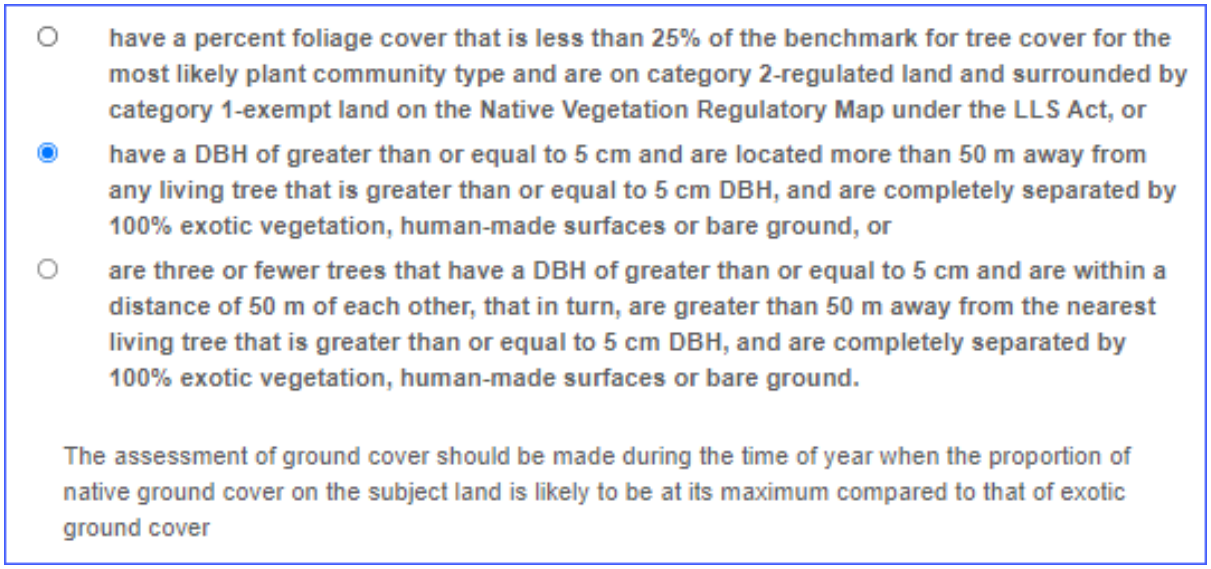


Tip

- The proposal name is a valuable identifier for the BAM-C assessment.
- A unique proposal name will help you distinguish the differences between assessment revisions.

5. Select the scattered trees definition applicable to the site. One of these definitions must be selected to move to the next tab. You must use another assessment type if none of these definitions are relevant. Where multiple definitions apply, select the most appropriate:
   a. have a per cent foliage cover less than 25% of the benchmark for tree cover for the most likely PCT and are on category 2-regulated land and surrounded by category 1-exempt land on the *Native Vegetation Regulatory Map* under the *Local Land Services Act 2013* (LLS Act)
   b. have a diameter at breast height (DBH) of greater than or equal to 5 cm and are located more than 50 m away from any living tree that is greater than or equal to 5 cm DBH, and the land between the scattered trees is comprised of vegetation that are all ground cover species on the widely cultivated native species list, or exotic species, human-made surfaces or bare ground
   c. are 3 or fewer trees that have a DBH of greater than or equal to 5 cm and are within 50 m of each other, that in turn, are greater than 50 m away from the nearest living tree that is greater than or equal to 5 cm DBH, and are completely separated by 100% and the land between the scattered trees is comprised of vegetation that are all ground cover species on the widely cultivated native species list, or exotic vegetation, human-made surfaces or bare ground.

   Note that for proposals on rural land (administered by the LLS Act), the BAM 2020 definitions B.1(a.), B.1(b.) and B.1(c.) are applicable. For proposals on non-rural land, only the BAM 2020 definitions B.1(b.) and B.1(c.) apply as B.1(a.) is not applicable to non-rural land.



Tip

- On rural land (administered by the LLS Act), any one of the 3 definitions in step 5 above can apply. On non-rural land, only definitions b and c can apply, as definition a is not applicable to non-rural land.
- Any proposed clearing of native vegetation that does not meet the definition of scattered trees must be assessed using another assessment type in BAM-C.
- The scattered trees module is not intended for use where scattered trees are species credit species. If such species are known to be present, these trees must be assessed using a different assessment pathway.

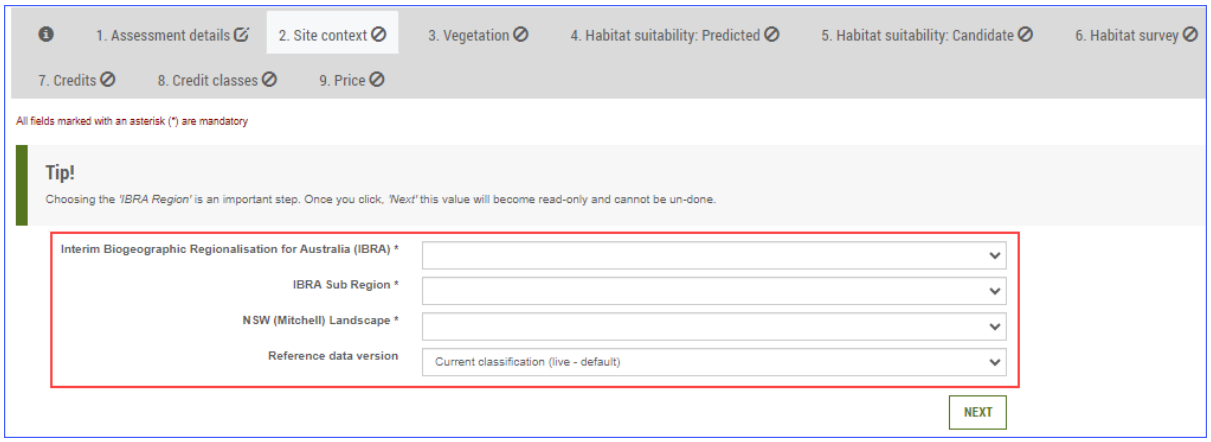
6. When all required information has been entered, click ‘Next’ to move to Tab 2.

Tip

- Once ‘Next’ is clicked, the assessment type for the assessment is locked.
- To change the assessment type, cancel or exit the assessment before saving and reopen the assessment.
- If the assessment has the incorrect assessment type and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click ‘Next’ to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

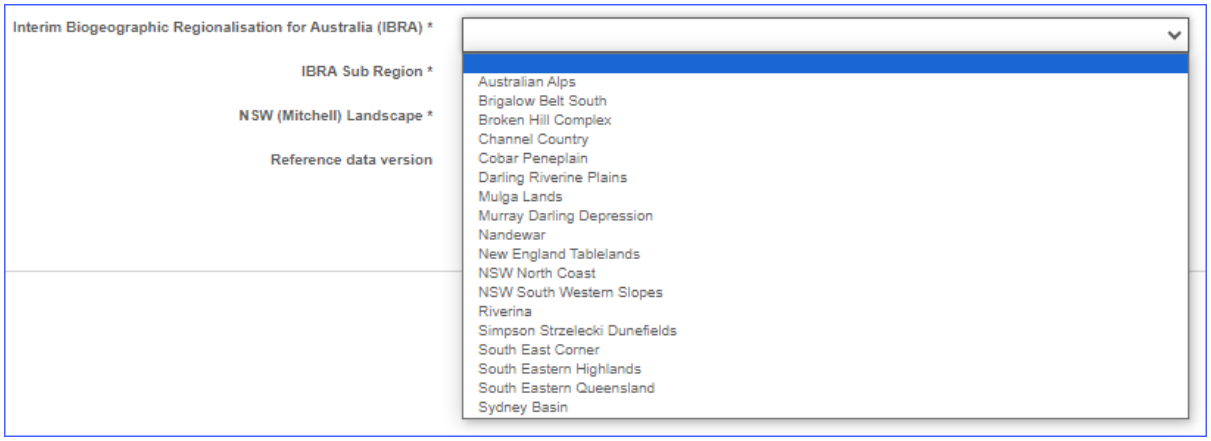
6.2 Site context (Tab 2)

The ‘Site context’ tab is used to capture information relating to the biogeographic and landscape setting of the site. Information required for this tab is displayed below.



1. The ‘Site context’ tab will be open if ‘Next’ was clicked on Tab 1.

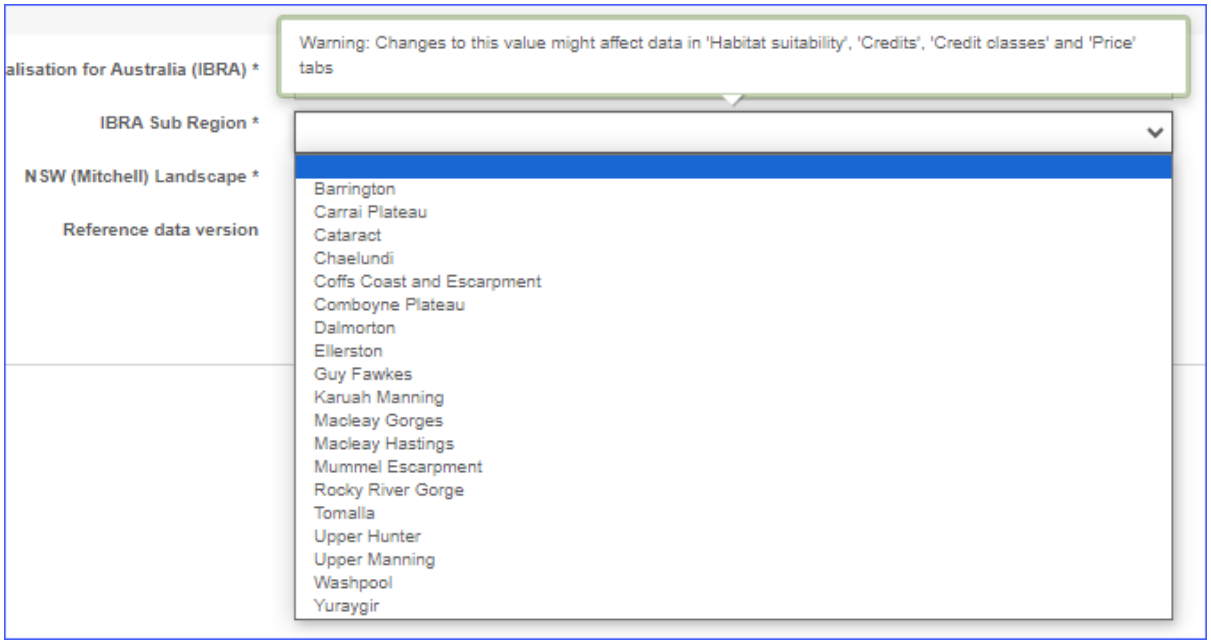
2. Use the ‘Interim Biogeographic Regionalisation for Australia (IBRA)’ drop-down to select the IBRA region. If the assessment occurs across multiple IBRA regions, select the IBRA region where the largest proportion of impact/area will occur.



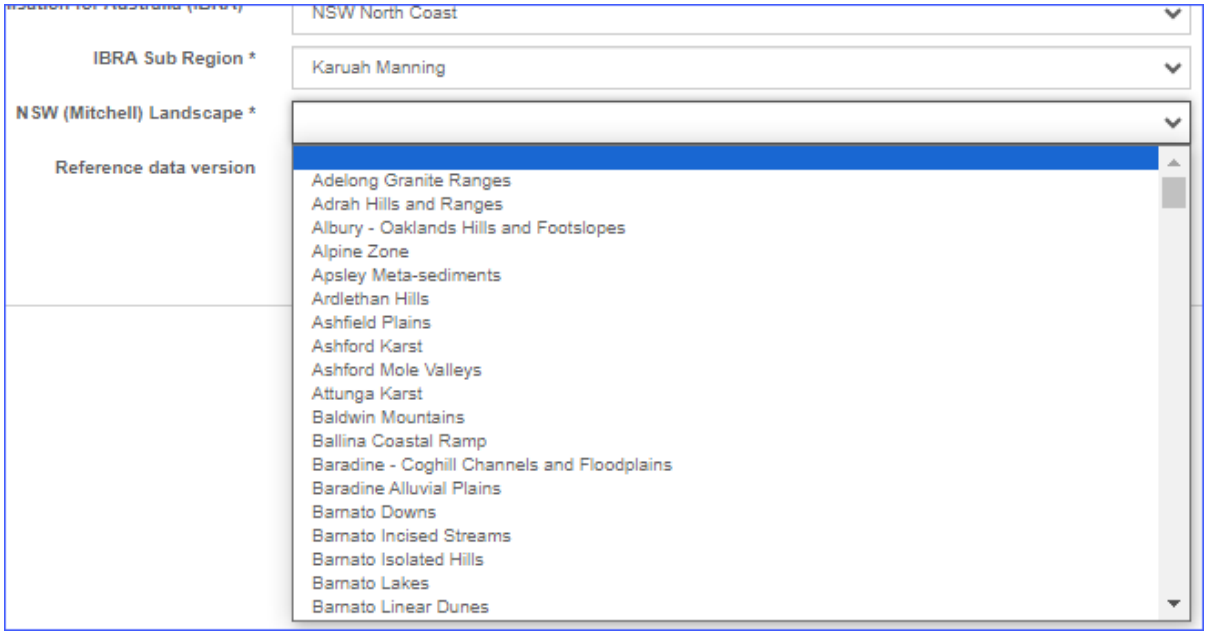
Tip

- See *Bioregions of NSW* for further information on the state’s bioregions (see Appendix B).
- See BAM 2020, Chapter 3 for further information on establishing the site context.
- The IBRA subregion selection affects future selections of PCTs, TECs and species.

3. Use the ‘IBRA Sub Region’ drop-down to select the IBRA subregion in which most of the site is located. The drop-down is filtered based on the IBRA region selected in step 2.



4. Use the ‘NSW (Mitchell) Landscape’ drop-down to select the landscape in which most of the proposal occurs.



Tip

- NSW (Mitchell) landscape does not influence calculations of VI or credit calculations, but is used in reporting.
- See *Descriptions for NSW (Mitchell) Landscapes* for further information (see Appendix B).

- When using the streamlined scattered trees module, you do not need to assess the percentage of native vegetation cover within the 1,500 m buffer.

5. **Reference data version** – The revised Eastern NSW PCT Classification has been deployed into the BAM-C, and revisions to the remainder of the state will be rolled out over the coming years. The reference data version may have different options available depending on when the assessment was created and which IBRA region is selected.

   Instructions are provided for the following scenarios:

   a. new assessments inside a revised NSW IBRA region

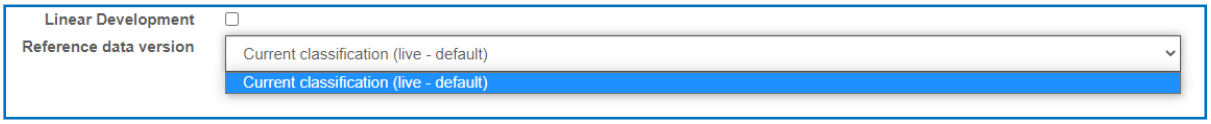
   b. existing assessments inside a newly revised NSW IBRA region

   c. new or existing assessments outside a newly revised NSW IBRA region.

   a. New assessments inside a revised NSW IBRA region

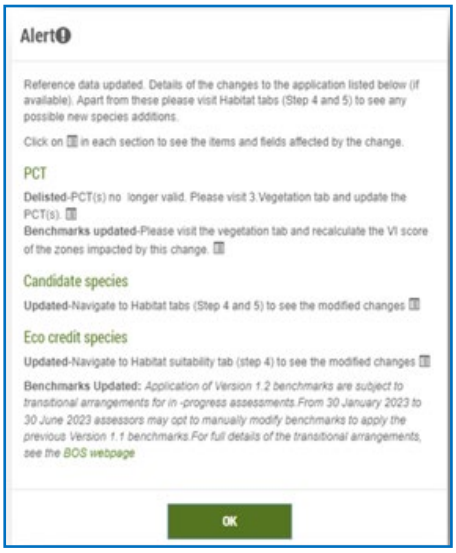
   All new assessments created after deployment of a revised NSW PCT classification will automatically use the revised NSW PCTs when an associated NSW IBRA region is selected.

   The only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



   b. Existing assessments inside a newly revised NSW IBRA region

   Reopening 'Open', 'Locked' or 'Finalised' assessments created before deployment of a newly revised NSW PCT classification will trigger an update with the revised NSW PCTs. This will trigger an alert detailing the changes that have occurred in the assessment.

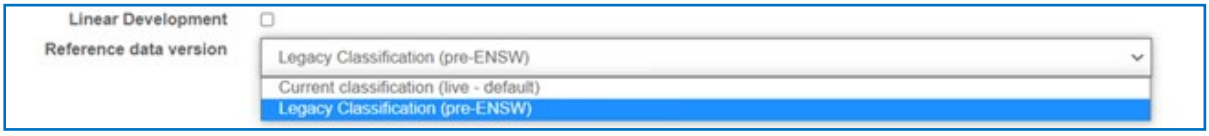


Tip

- Take a screenshot of the alert showing the updates. Alerts will not display again once the case has been saved.

To use legacy PCTs during a transitional period, select the legacy classification in the 'Reference data version' drop-down.

Alternatively, to use the revised NSW PCTs select 'Current classification (live – default)'.

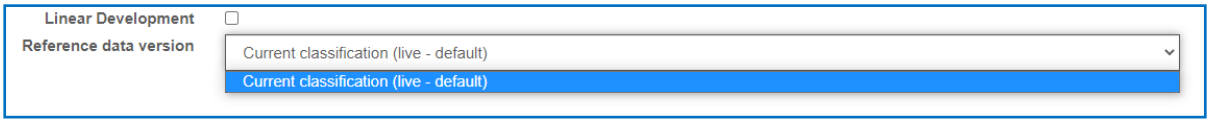


To progress an assessment with revised data, the following tabs may require amendment:

- Tab 3 – Vegetation
- Tab 4 – Habitat suitability: Predicted
- Tab 5 – Habitat suitability: Candidate
- Tab 6 – Habitat Survey.

c. New or existing assessments outside a revised NSW IBRA region

New or existing assessments outside of a newly revised NSW IBRA region will **not** update with new NSW PCTs, as they are not relevant. The only available option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



Tip

- Further information on transitional arrangements is available from the *New vegetation integrity benchmarks and plant community types* webpage (see Appendix B).
- When a transitional period ends, the only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'. At this time, revised NSW PCTs must be used for all assessments within the associated NSW IBRA regions.
- Clear your browser cache to ensure any newly revised NSW PCTs and the legacy reference data version display correctly in the drop-down.

Clearing the BAM-C cache – If you are having a problem selecting legacy PCTs (during a transitional period) in a case created before deployment of any revised NSW PCTs, clear your cache in the BAM-C. See Appendix A of this guide for instructions on clearing the cache.

Tip

- If you cannot clear the cache to see the legacy classification in the 'Reference data version' drop-down, contact the BOS Help Desk for assistance.

6. When all required information has been entered, click 'Next' to move to Tab 3.

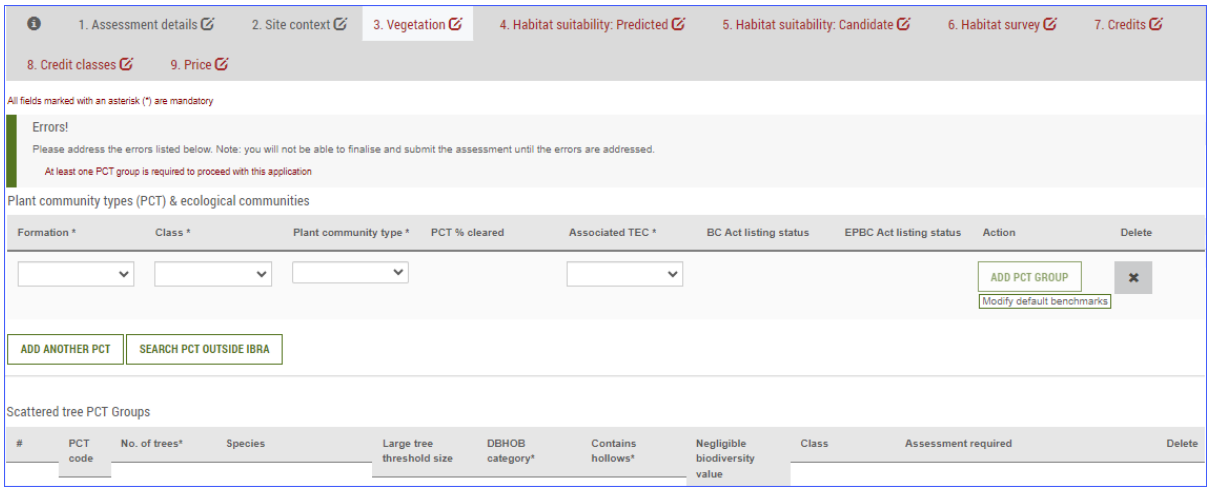
Tip

- Once 'Next' is clicked, the IBRA region for the assessment is locked.
- To change the IBRA region, cancel or exit the assessment before saving and reopen the assessment.
- If the IBRA region is incorrect and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click 'Next' to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

6.3 Vegetation (Tab 3)

The 'Vegetation' tab records the PCT(s) present on the site and records details of the scattered trees in the proposal. Refer to Appendix B.2 and B.3 of the BAM 2020 for further information.

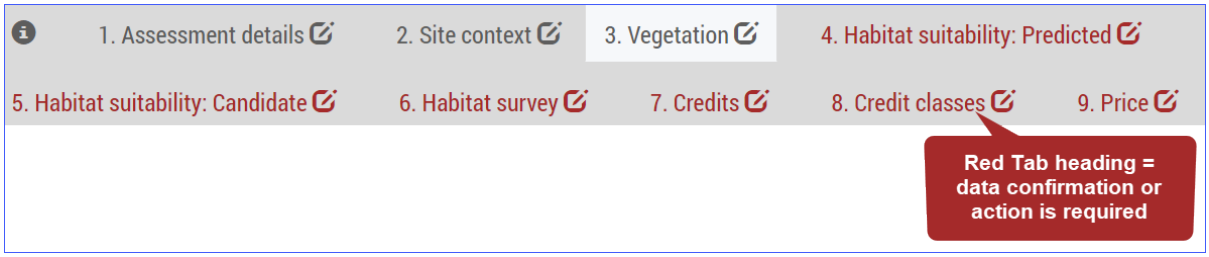
The vegetation fields required for a scattered trees assessment are displayed below.



6.3.1 Define the PCTs and TECs

1. The ‘Vegetation’ tab will be open if ‘Next’ was clicked on Tab 2. When reopening an assessment with existing information, click on Tab 3 to open it.

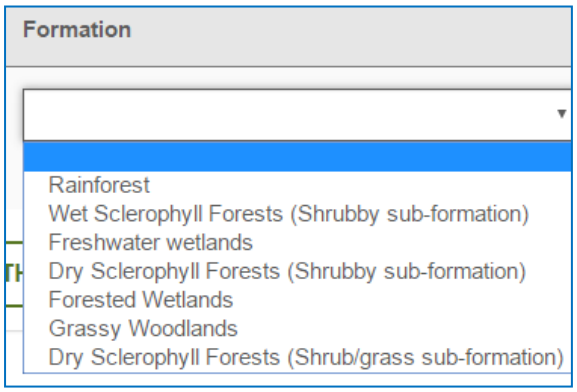
2. Note that if any tab headings are shaded in red, action is required, or information needs to be entered/confirmed on that tab. Remember to click ‘Next’ to move through the tabs if any changes are made.



3. Whilst individual trees are being assessed, a representative PCT for the trees being assessed is required as this identifies the large tree threshold. The PCT chosen is then used when calculating the tree class and number of credits.

   If the PCT name or number is known, the ‘Plant community type’ field can be added as the first step, automatically populating the formation and class fields.

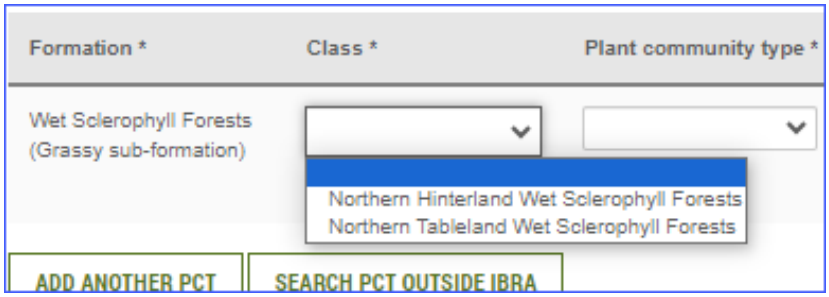
   If the PCT name or number is not known, use the ‘Formation’ drop-down to select the formation for the PCT.



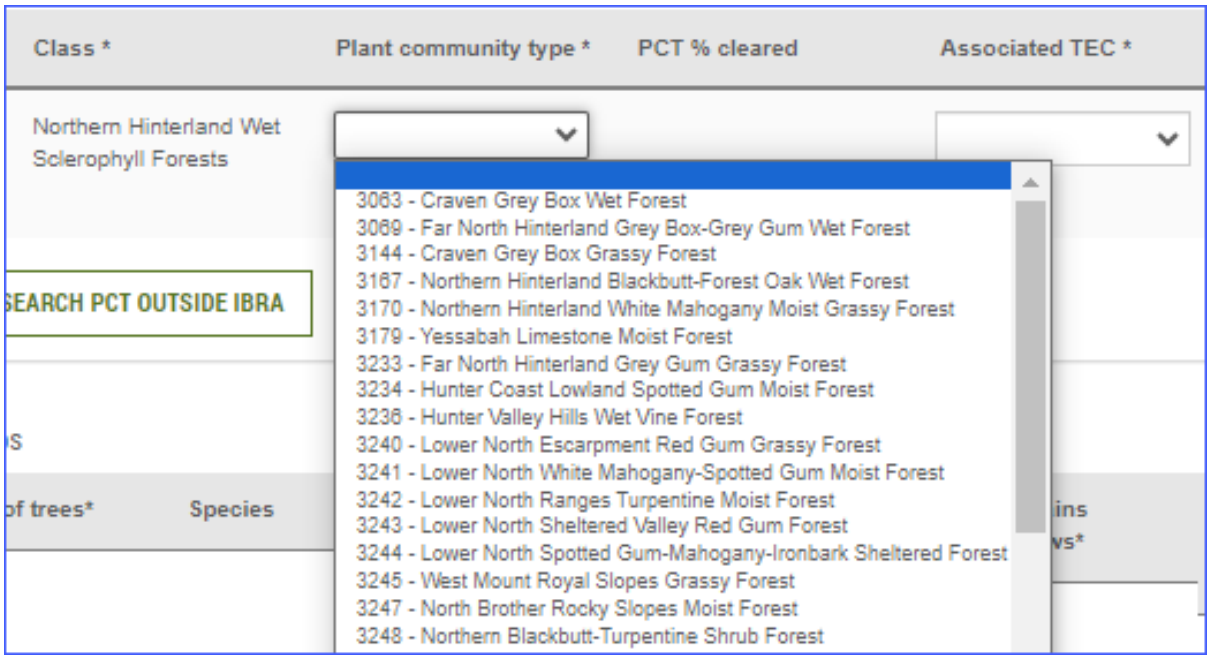
Tip

- If the PCT or number is known, enter this first, and the formation and class fields will be populated automatically.
- Only PCTs associated with the IBRA region and IBRA subregion will be available.
- Refer to the webpage *About BioNet Vegetation Classification* (Veg-C) for further information about PCTs and TECs (see Appendix B).

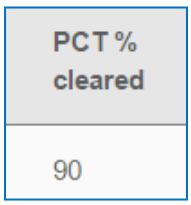
4. Use the ‘Class’ drop-down (if PCT name or number is not known) to select the required class. The classes available will be filtered to those associated with the formation if a formation was selected in step 3.



5. Use the ‘Plant community type’ drop-down to select the required PCT. The PCTs available will be filtered to those associated with the class if a class was selected in step 4.



6. The % cleared value for the PCT will be displayed under ‘PCT % cleared’. The % cleared value is an estimate of the extent to which a PCT has been cleared since European settlement and is used when assigning a non-threatened PCT to an OTG.



Tip

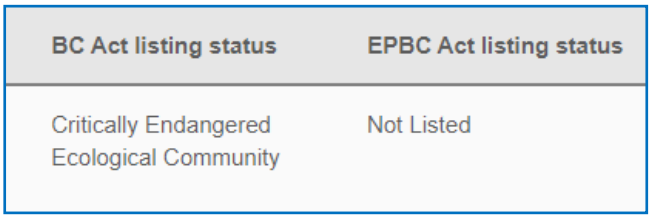
- Detailed information on each PCT and its geographic distribution is available as a downloadable and refreshable Power Query from *NSW BioNet Resources* (see Appendix B), 'BioNet Vegetation Classification' > 'Power Queries' > 'Plant Community Type data'.
- Refer to the *Offset rules and ecosystem credits* guidance for more information on % cleared and OTGs (see Appendix B).

7. Select the 'Associated TEC' drop-down. If the scattered trees are part of a TEC, select the relevant TEC. Select ' Not a TEC ' if no TEC is associated with the PCT. Adding a TEC has no impact on the number of credits generated but will affect the offsetting requirements.

Tip

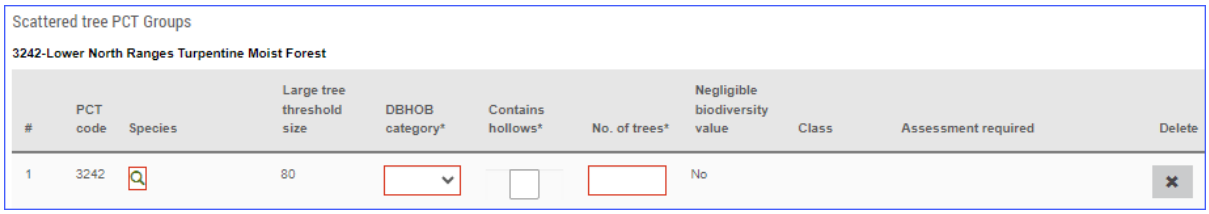
- Only TECs associated with the selected PCT (in BioNet) are shown in the drop-down. Where a TEC is present at the site but is unavailable in the drop-down list, it may be because the TEC is not associated with the IBRA region and IBRA subregion chosen.
- A detailed description of each TEC is available through the *Threatened biodiversity profile search* app (see Appendix B).
- Detailed information on the PCT to TEC associations and the applicable subregions is available as a downloadable and refreshable Power Query from the *NSW BioNet Resources* webpage (see Appendix B). 'BioNet Vegetation Classification' > 'Power queries' > 'Threatened Ecological Community to Plant Community Types (PCT) Association data'.
- If a scattered tree is identified as a threatened species, you cannot use the scattered trees module.

8. The state and Commonwealth listing status of a TEC will be displayed under the 'BC Act listing status' and 'EPBC Act listing status' headings, respectively.



9. Click 'Add PCT Group'.

10. Where there is more than one tree being assessed, the trees will need to be split into multiple PCT groups where:
    - there are different tree species being assessed
    - the tree species falls into different tree classes as per Table 11 of the BAM 2020.
11. To add another PCT group for a PCT, click 'Add PCT group' again, beside the applicable PCT.
12. A scattered trees PCT group record will be added to the 'Scattered tree PCT Groups' section.



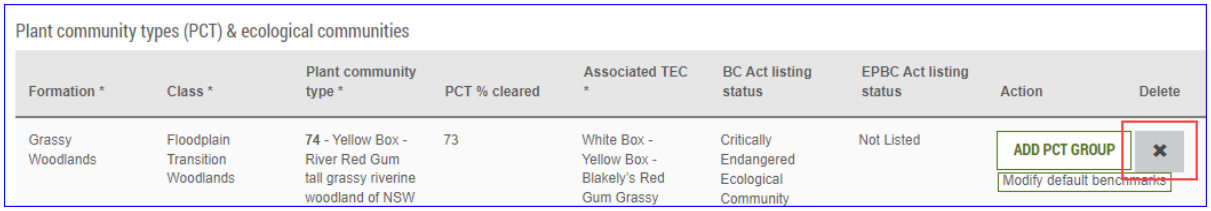
13. Click 'Add another PCT' (if required) and repeat the above steps to add additional PCTs.

14. If the required PCT is missing from the PCT list, click 'Search PCT outside IBRA', enter the name or PCT number to search, and then select the PCT. Repeat the above steps for adding PCT groups.

Tip

- You can only add PCTs that are associated with the selected IBRA region when you use the 'Add Another PCT' button.
- With the 'Search PCT outside IBRA' button you can add any approved PCT, not only those associated with the selected IBRA region.
- Some PCTs have no (or incomplete) benchmarks in Veg-C. For these PCTs, an error will be displayed, and the PCT cannot be used in the assessment.

15. To delete a PCT or a scattered tree PCT group, click the button on the right under 'Delete'.

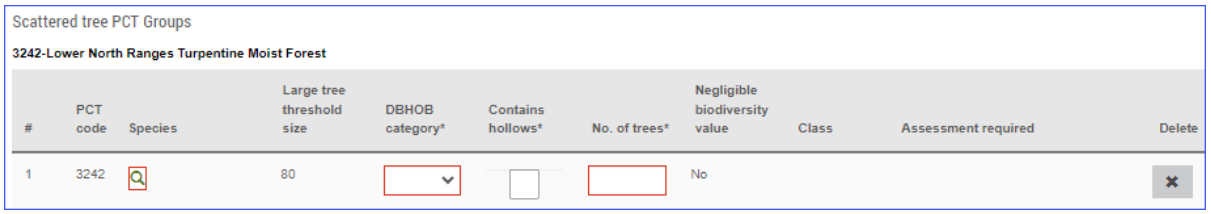


6.3.2 Scattered tree PCT groups

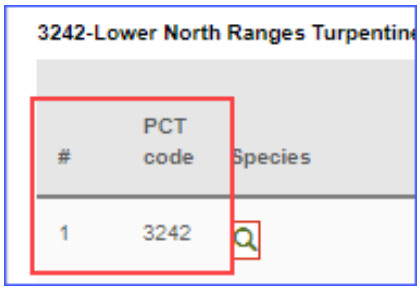
The BAM 2020, Appendix B.5 states that every class 2 and class 3 scattered tree needs to be assessed to determine whether it is an HBT. All trees with hollows need to be clearly identified on a map.

The offset requirements for scattered trees differ depending on the tree class (including whether it contains hollows or not). Refer to the BAM 2020, Table 11 for more information. Separate scattered tree PCT groups must be created for each tree species.

1. After 'Add PCT Group' for a PCT is clicked a record will be created under 'Scattered tree PCT Groups'.

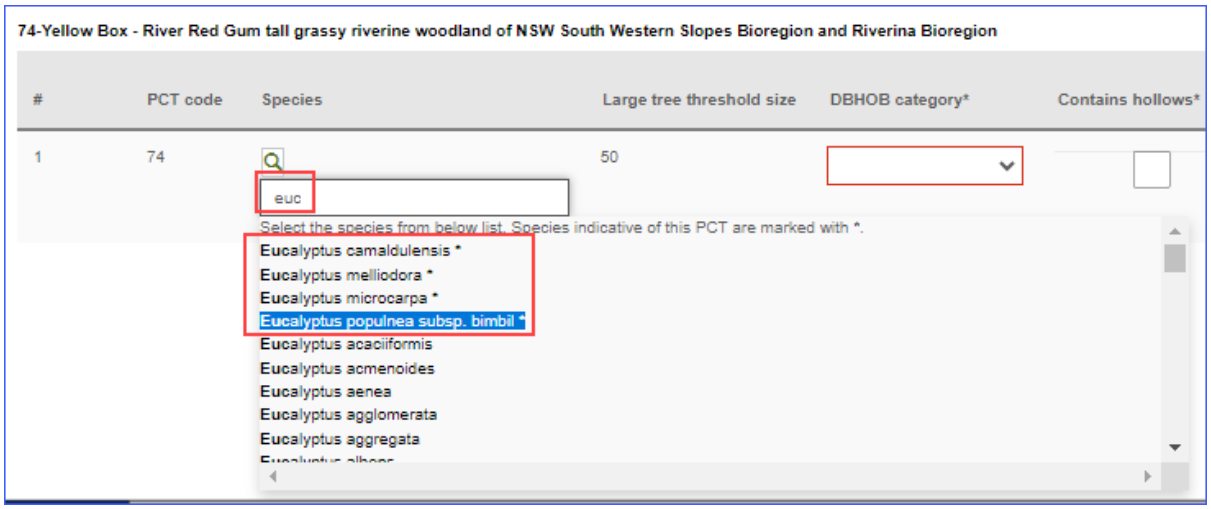


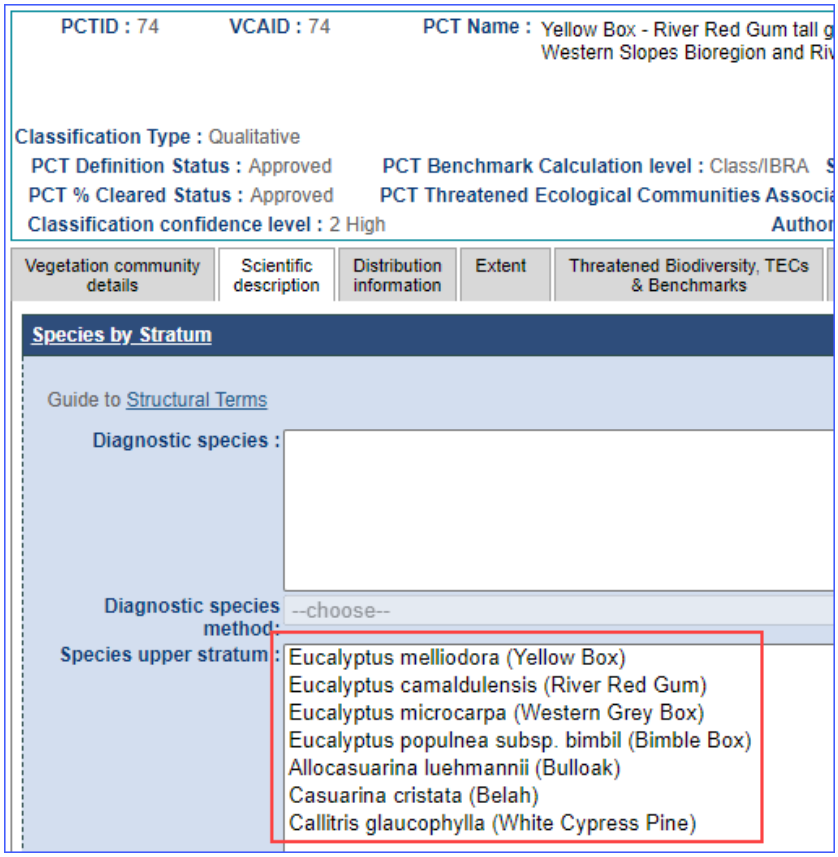
2. A tree group number will be generated, and the relevant PCT number for each group is displayed.



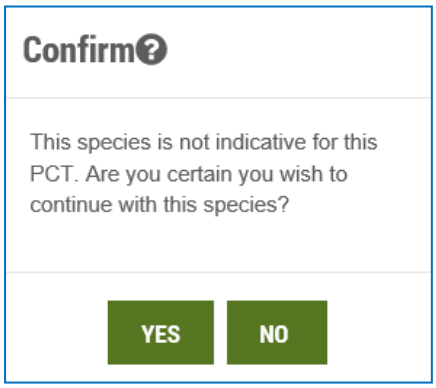
3. For each scattered tree PCT group added, select the ‘Species’ field and search for the tree species associated with the PCT for that group.

   Species identified as being associated with the PCT will be marked with an asterisk and will appear at the top of the species list. You can confirm which tree species are associated with the PCT from within BioNet Veg-C.

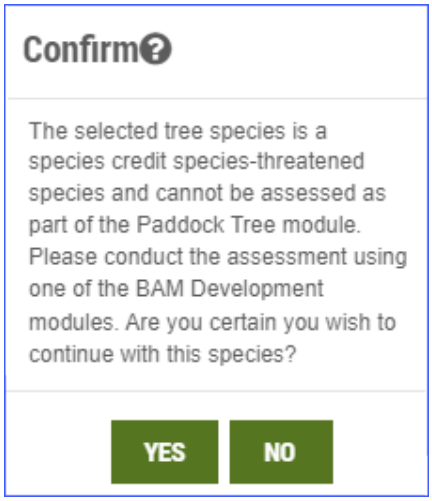




4. A warning pop-up will appear if the species selected is not associated with the selected PCT.



5. If the selected species is a species credit species (a threatened species), it cannot be assessed using the scattered trees module and a warning pop-up will appear.

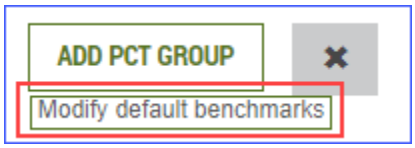


Tip

- If a scattered tree is identified as a threatened species, you cannot use the scattered trees module.

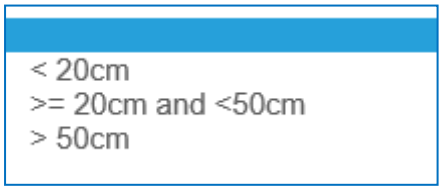
6. The benchmark 'Large tree threshold size' for the PCT will be displayed based on the PCT benchmark information in Veg-C. This will be the largest 'DBHOB category'.

7. The large tree threshold size value can be modified by selecting ‘Modify default benchmarks’ under ‘Add PCT group’.

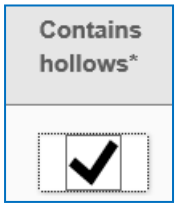


8. Click ‘Unlock’, then modify the large tree threshold size. Click ‘Update‘ to confirm the change, or ‘Cancel’ to retain the original threshold size.

9. Use the ‘DBHOB category’ drop-down to select the DBH category that applies to the tree group. If the tree group contains trees that meet more than one DBHOB category you should split the trees into separate groups and assess each separately.

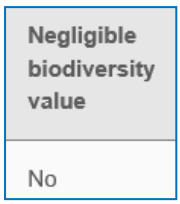


10. Tick the ‘Contains hollows’ checkbox if the trees contain hollows. If the tree group contains some trees with hollows (regardless of size) and some without, you should split the trees into separate groups and assess each separately.



11. Enter the number of trees in the tree group in the ‘No. of trees’ column.

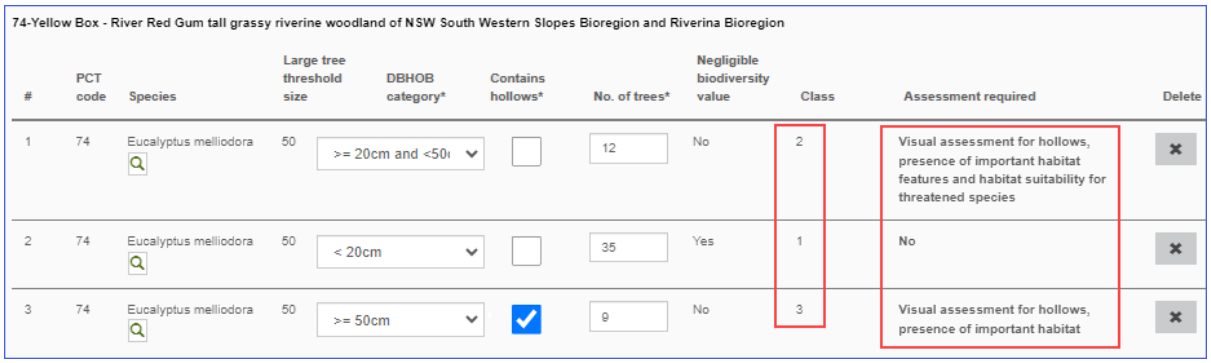
12. ‘Negligible biodiversity value’ for the tree group will populate automatically with ‘Yes’ or ‘No’, depending on previous selections. Refer to the BAM 2020, Table 11, for more information.



13. The class value of the tree group will populate automatically with '1', '2' or '3', depending on previous selections. Refer to the BAM 2020, Table 11, for more information.

Class
2

14. Based on the class of the tree group, the BAM-C will identify if further assessment is required. Refer to the BAM 2020, Appendix B.3 and Table 11 for more information.



74-Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion

#	PCT code	Species	Large tree threshold size	DBHOB category*	Contains hollows*	No. of trees*	Negligible biodiversity value	Class	Assessment required	Delete
1	74	Eucalyptus melliodora	50	>= 20cm and <50	☐	12	No	2	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species	✖
2	74	Eucalyptus melliodora	50	< 20cm	☐	35	Yes	1	No	✖
3	74	Eucalyptus melliodora	50	>= 50cm	☑	9	No	3	Visual assessment for hollows, presence of important habitat	✖

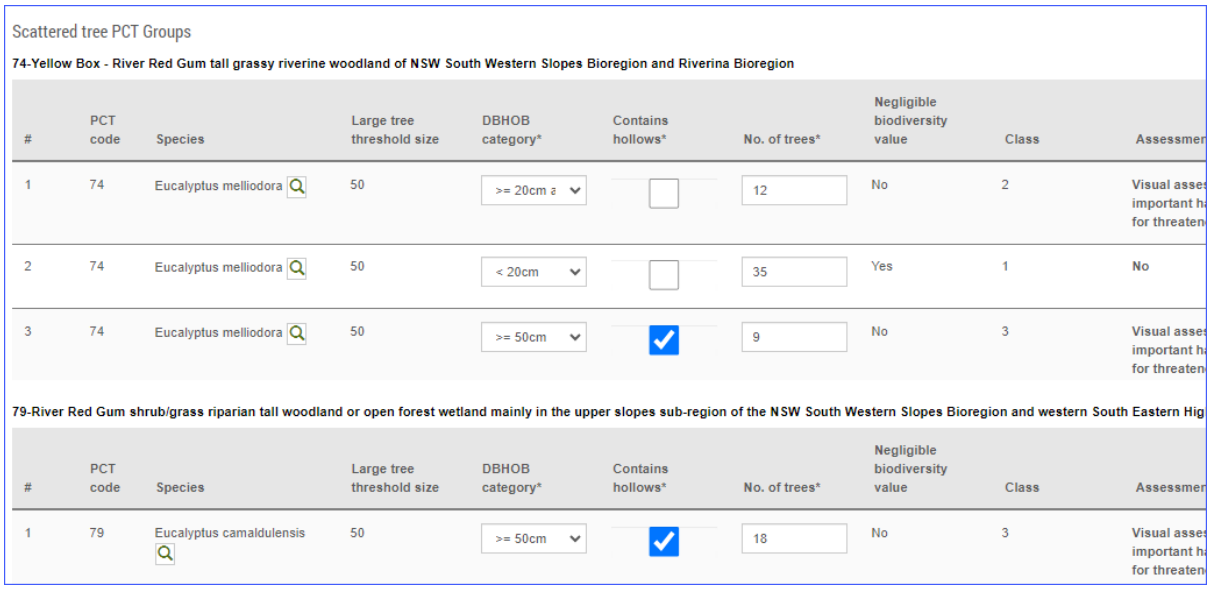
Assessment required
Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species

Assessment required
No

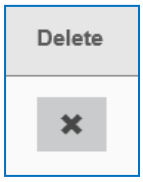
Tip

- Save your assessment regularly to ensure data is not lost.
- Refer to BAM 2020, Appendix B.5 for more information on the classes, and calculating the offset requirements for scattered trees.

15. Repeat the above steps for all PCT groups.



16. If you need to delete the data for a PCT group, click the button on the right under 'Delete'.



17. When all required information has been entered, click 'Next' to move to Tab 4.

6.4 Habitat suitability: Predicted (Tab 4)

Ecosystem credit species are threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features, or that have a low probability of detection using targeted surveys. The TBDC identifies the threatened species assessed for ecosystem credits, and the BAM-C automatically populates the list of ecosystem credit species.

The confirmation of ecosystem credit species is not required for scattered tree assessments as their presence/absence does not impact the number of credits generated.

No action is required for Tab 4.

Tip

- The number and type of ecosystem credit (predicted) species do not impact the number of credits generated for a scattered tree assessment, so there is no need to assess them.
- Remember to click Next' to progress to Tab 5 so the data from previous tabs flows through to the subsequent tabs and calculations.

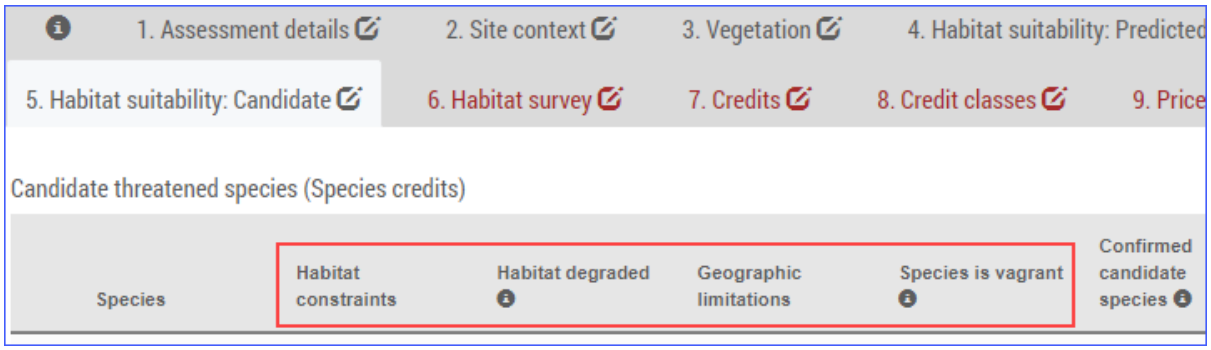
6.5 Habitat suitability: Candidate (Tab 5)

The 'Habitat suitability: Candidate' tab is used to confirm the threatened species credit species that may occur on or use the site. Species credit species are those where the likelihood of occurrence of a species or elements of suitable habitat for that species cannot be confidently predicted by vegetation surrogates and landscape features and can be reliably detected by survey.

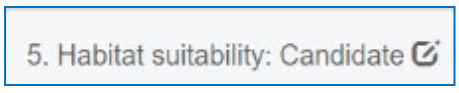
The candidate species list is populated automatically based on criteria in the BAM 2020 (Subsection 5.2.1, Step 1) but is limited to displaying species that are at risk of an SAII. Any additional threatened species that are identified on the site (that is, incidentally observed during a site visit) must be manually added to the species list at Tab 5.

You must review the automatically populated information alongside the BAM 2020, Subsections 5.1.2–5.2.3 to confirm the candidate species for assessment.

The information required for Tab 5 is displayed below.



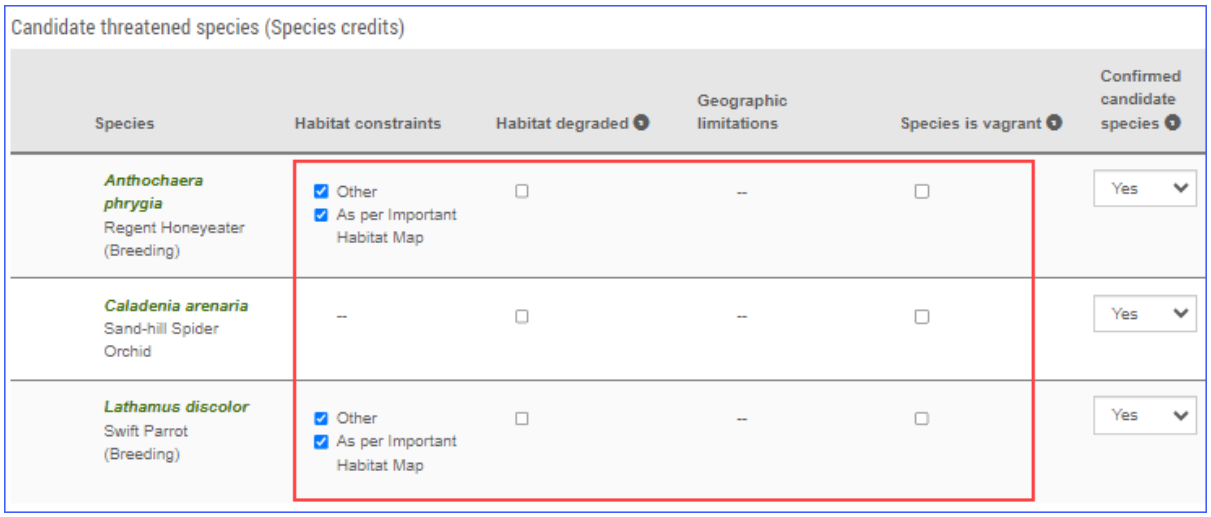
1. As 'Next' was clicked after completion of Tab 4, the 'Habitat suitability: Candidate' tab will be open. When reopening an existing assessment, click on Tab 5 to open it.



Tip

- Scattered tree assessments will only display species credit species at risk of an SAII.
- Refer to *Serious and irreversible impacts of development on biodiversity* for the current species SAII list (see Appendix B).

2. Review the 'Habitat constraints', 'Habitat degraded', 'Geographic limitations' and 'Species is vagrant' checkboxes relevant to each species to confirm that the indicated options are relevant to the site (BAM 2020, Subsections 5.2.1–5.2.3):
   a. If the indicated 'Habitat constraints' or 'Geographic limitations' options are not relevant, the box should be unchecked.
   b. If the 'Habitat degraded' option is relevant, the box should be checked.
   c. In limited circumstances, a species may appear in the populated list due to a vagrant individual recorded in the IBRA subregion. In most cases, vagrant sightings will be marked as such on the BioNet Atlas and will not be included in the BAM-C. If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox.


Candidate threatened species (Species credits)

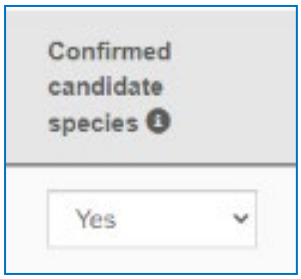
Species	Habitat constraints	Habitat degraded	Geographic limitations	Species is vagrant	Confirmed candidate species
Anthochaera phrygia Regent Honeyeater (Breeding)	☑ Other ☑ As per Important Habitat Map	☐	--	☐	Yes
Caladenia arenaria Sand-hill Spider Orchid	--	☐	--	☐	Yes
Lathamus discolor Swift Parrot (Breeding)	☑ Other ☑ As per Important Habitat Map	☐	--	☐	Yes

Note: An asterisk beside a species name indicates the species has been added to the assessment because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover, or patch size.

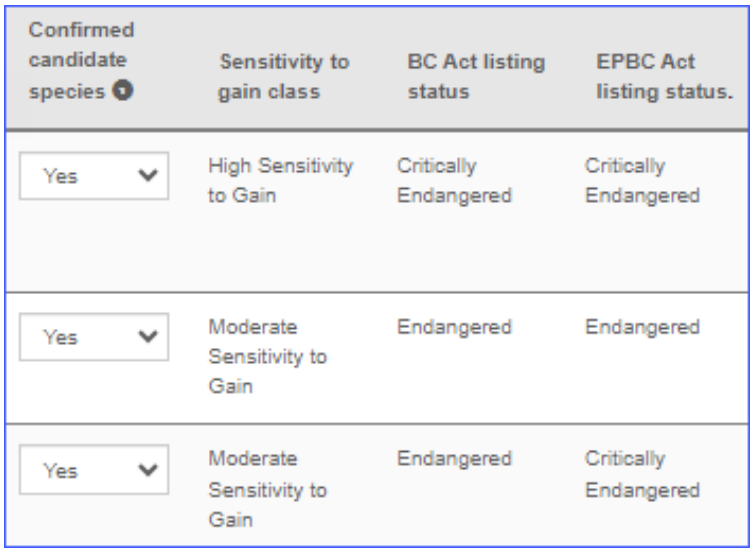
Tip

- If you are confident a species is displaying in the populated list due to a vagrant BioNet Atlas record, tick the 'Species is vagrant' checkbox. Please send supporting justification to the BOS Help Desk so the species can be reviewed.
- Further details on habitat constraints (including the 'other' category) and geographic limitations can be found on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).

3. The ‘Confirmed candidate species’ default setting for development/clearing assessments is ‘yes’ if:
   a. all indicated ‘Geographic limitations’ and ‘Habitat constraints’ remain checked
   b. ‘Species is vagrant’ and ‘Habitat degraded’ are unchecked.

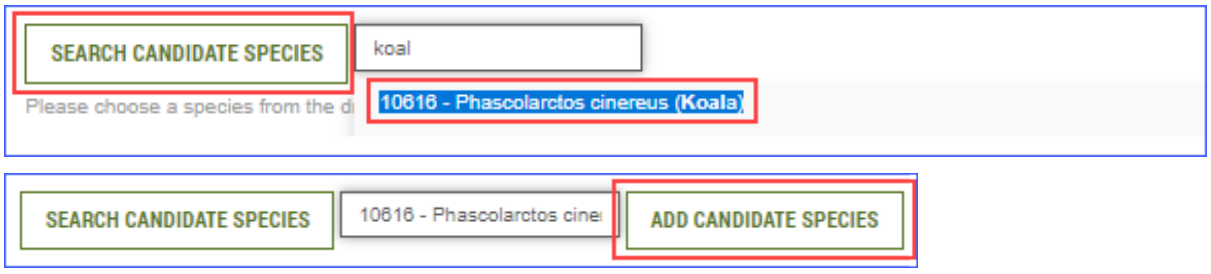


4. The ‘Sensitivity to gain class’, ‘BC Act listing status’ and ‘EPBC Act listing status’ will populate automatically, however, Tab 5 does not display the species’ SAII status.

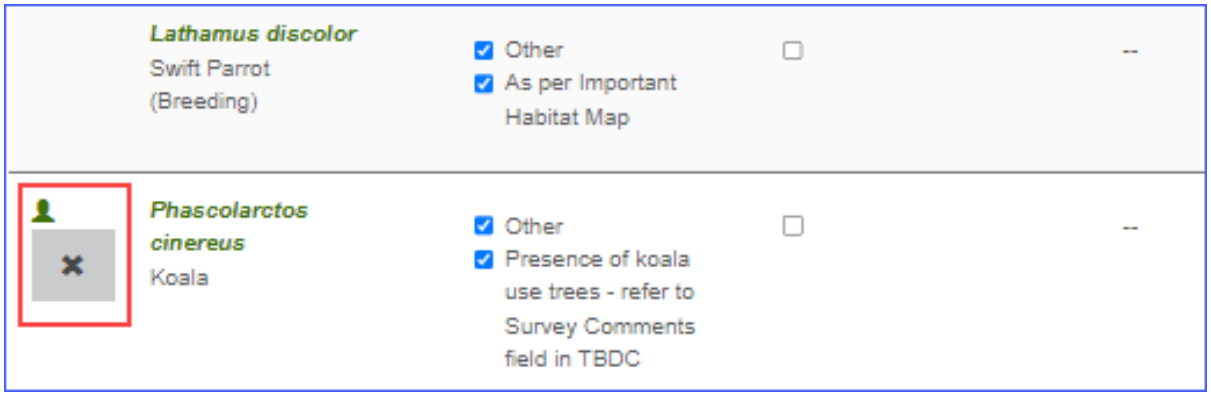


5. Any threatened species that is incidentally observed while at the site, but that is not in the list generated by the BAM-C, must be manually added. Click ‘Search candidate species’ at the bottom of the tab page and enter the species’ name or profile ID.

   Any matching species will be presented in a list. Select the species’ name and click ‘Add candidate species’.



6. When a species is added, an ‘X’ will appear to the left of the species’ name, indicating this species has been added by the assessor. This species can be removed by clicking on the ‘X’.

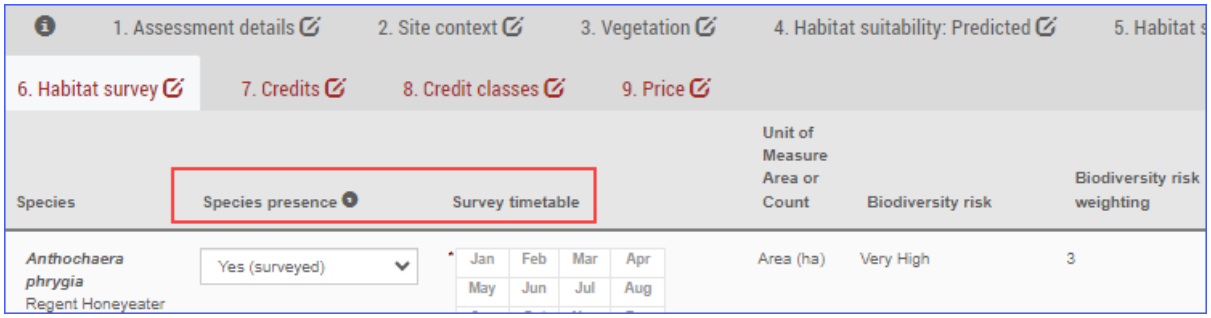


7. When all required information has been entered, click ‘Next’ to move to Tab 6.

6.6 Habitat survey (Tab 6)

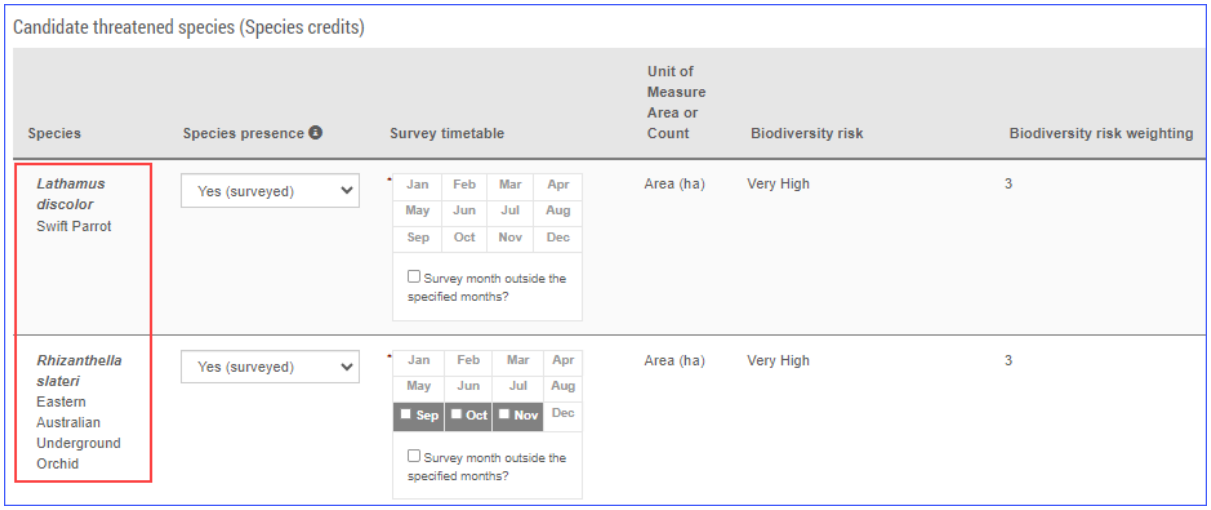
The scattered tree assessment module must not be used if any species credit (candidate) species are confirmed to be using the tree(s) as habitat (or there is evidence they are using the tree(s), such as scats or shells). You will need to use an alternative assessment method. Refer to Chapters 4 and 5 for alternative development assessment types.

The steps to complete Tab 6 are described below.

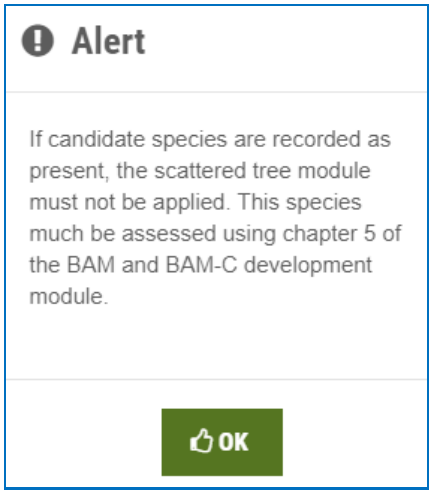


1. As ‘Next’ was clicked after completion of Tab 5, the ‘Habitat survey’ tab will be open. When reopening an existing assessment, click on Tab 6 to open it.

2. The list of candidate species from Tab 5 ‘Habitat suitability: Candidate’ that were confirmed as potentially present based on the habitat and geographic limitations are listed in Tab 6. This includes any species that were manually added to Tab 5.



An alert pop-up will appear if the ‘Habitat survey’ tab lists any candidate species.

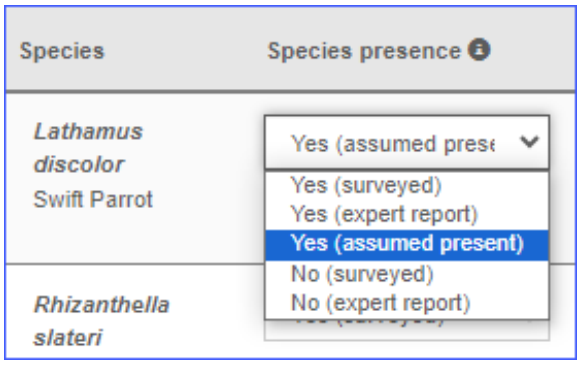


Tip

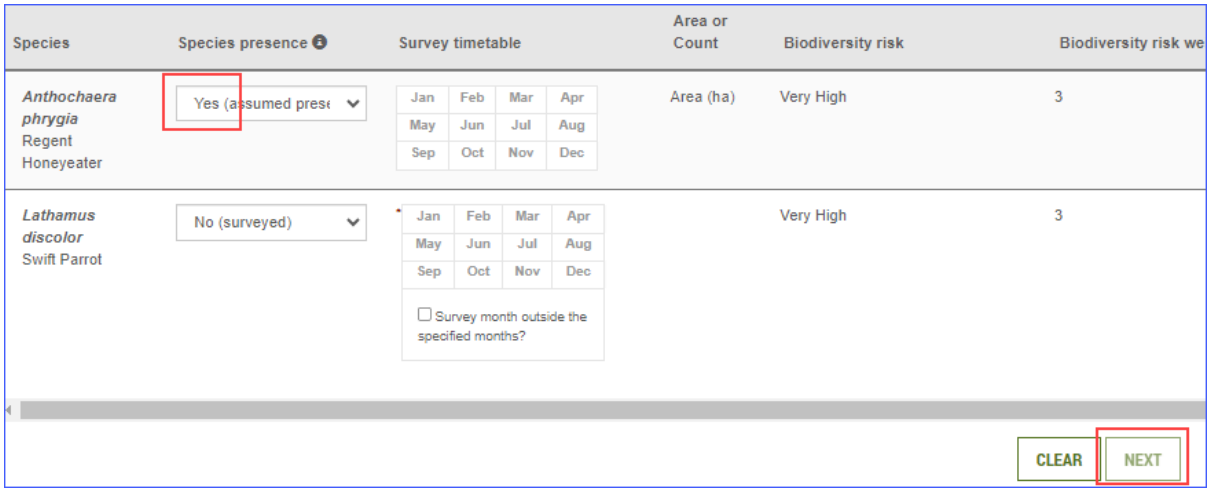
- Any trees that are identified as providing habitat for a species credit species must be assessed using the BAM 2020, Chapter 5, and the scattered trees module must not be used.

3. ‘Species presence’ automatically defaults to ‘Yes (surveyed)’. You can change how presence was confirmed using the drop-down. Options are ‘Yes (surveyed)’, ‘Yes (expert report)’ or ‘Yes (assumed present)’. Alternatively, if the species is identified as absent based on either survey or an expert report, options are ‘No (surveyed)’ or ‘No (expert report)’.

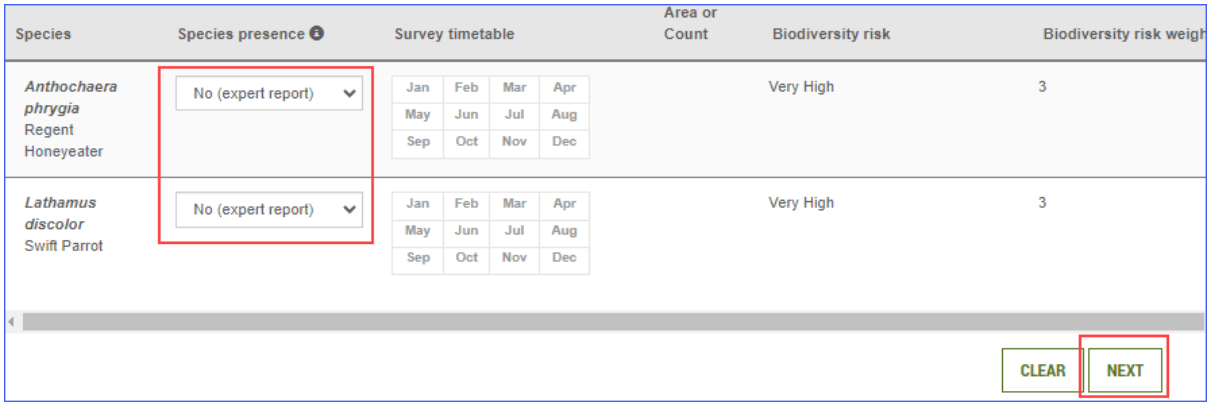
4. For a small number of species, the habitat constraint information in the TBDC refers to an important habitat map. If one of these species is being assessed, and the assessment area is wholly or partially within a mapped layer identified on an important habitat map, the species must be considered present ('Yes (assumed present)'). If the assessment area does not overlap any mapped layer, the species credit species is considered absent ('No (surveyed)'). Include reference to the important habitat map in the BAR.



5. If a species was surveyed for, use the checkboxes in the 'Survey timetable' field to indicate when the survey(s) were undertaken. The survey method must comply with any threatened species survey guides or advice the department has published or provided within the TBDC. In the absence of any guide or advice, use a best-practice method.
6. If any species are found to be using the tree(s) as habitat, the 'Next' button in the BAM-C will be disabled and the case cannot be finalised. Use a different assessment pathway to assess the trees. Refer to Chapters 4 and 5 of this guide for alternative development assessment types.



7. If no species credit species (or the species credit component of a dual credit species) are using the trees(s) as habitat, change the 'Species presence' field to 'No (surveyed)' or 'No (expert report)'. This will enable the 'Next' button.



8. Note that the UoM, 'Biodiversity risk' and 'Biodiversity risk weighting' for each species is displayed but cannot be edited.
9. When all required information has been entered, click 'Next' to move to Tab 7.

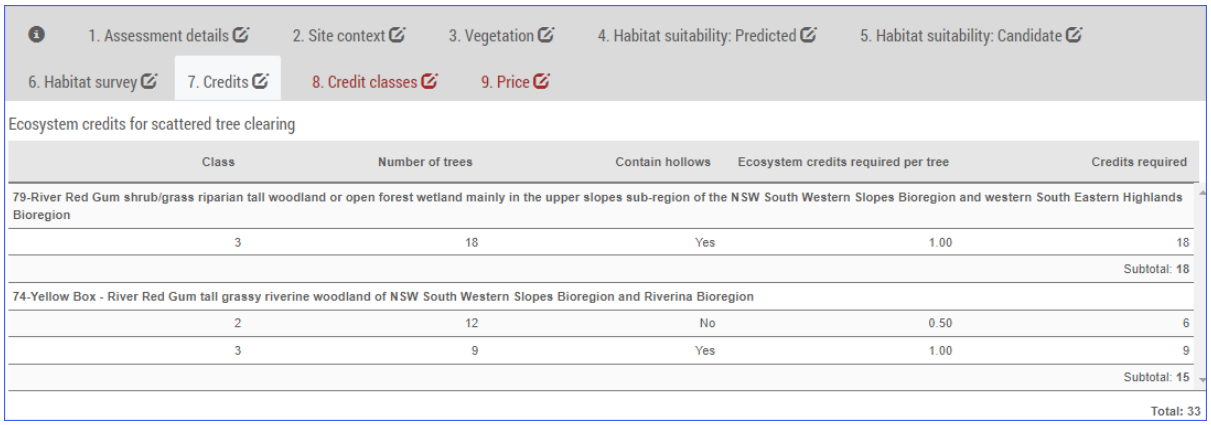
6.7 Credits (Tab 7)

The BAM 2020 uses biodiversity credits to measure the residual impacts of a proposal on biodiversity values.

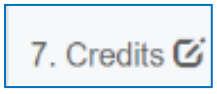
The 'Credits' tab summarises the results of calculations of credits for each scattered tree PCT group with biodiversity value. Note that any tree group with negligible biodiversity value will not generate credits and will not display on the 'Credits' tab.

No user action is required for Tab 7.

Further details on the calculations performed are in Subsection 6.7.3 below.



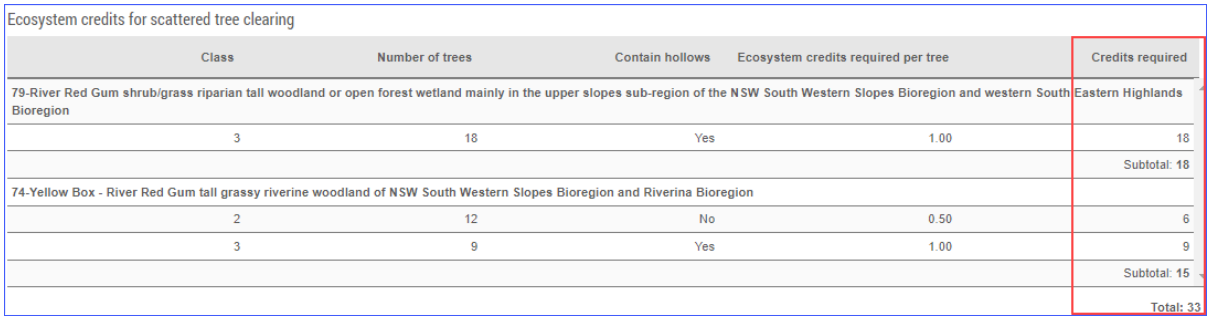
1. As 'Next' was clicked after completion of Tab 6 the 'Credits' tab will be open. When reopening an existing assessment, click on Tab 7 to open it.



6.7.3 Ecosystem credits for PCTs and TECs

Tab 7 displays the ecosystem credits for all tree groups from Tab 3 that have biodiversity value.

The BAM-C uses the number of trees in the group and the scattered tree class to calculate the number of ecosystem credits for each scattered tree PCT group added at Tab 3. Refer to Equation 7 in the BAM 2020 for more information.



Ecosystem credits for scattered tree clearing

Class	Number of trees	Contain hollows	Ecosystem credits required per tree	Credits required
79-River Red Gum shrub/grass riparian tall woodland or open forest wetland mainly in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion				
3	18	Yes	1.00	18
				Subtotal: 18
74-Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion				
2	12	No	0.50	6
3	9	Yes	1.00	9
				Subtotal: 15
				Total: 33

Tip

- Use the scroll bar to see all ecosystem credits.
- For further information on calculating scattered tree credits, refer to BAM 2020, Appendix B.5.

No user action is required for Tab 7 and there is no 'Next' button. Click on Tab 8 'Credit classes' to open it.

6.8 Credit classes (Tab 8)

The BAM 2020 uses OTGs to offset non-threatened vegetation (PCTs). OTGs are groups of PCTs with the same vegetation class and threat status. Under the like-for-like rules, offsets for impacts to non-threatened vegetation may be met with one or more OTGs that have the same vegetation class with the same or a higher threat status.

Under the like-for-like rules, threatened vegetation (TECs) must be offset with the same TEC.

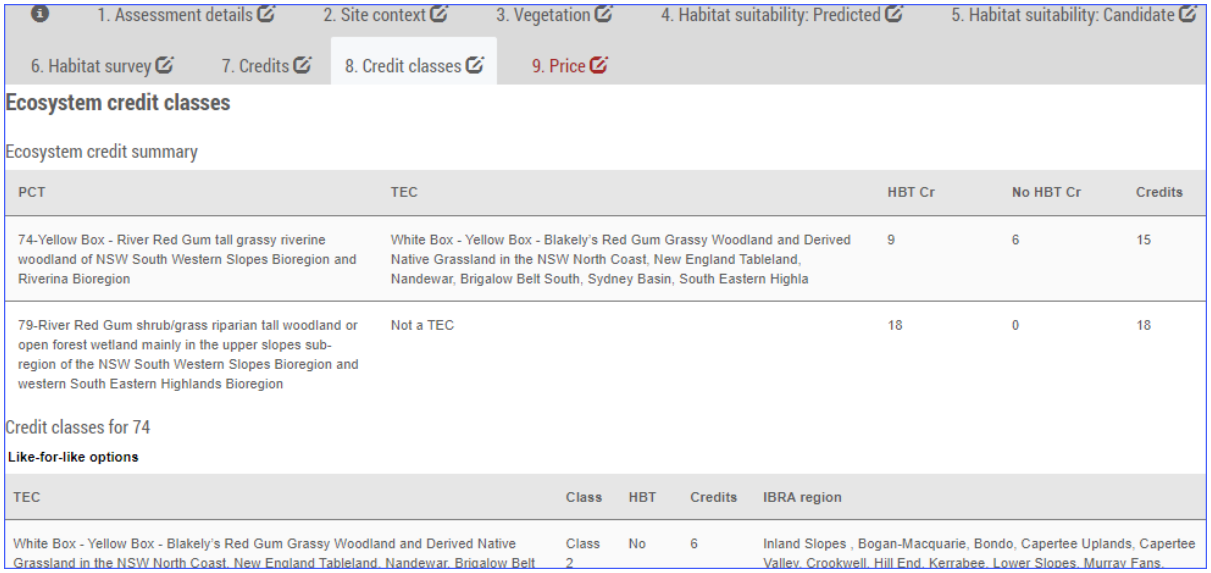
Vegetation containing HBT must be offset with vegetation containing HBT.

Variation rules may apply.

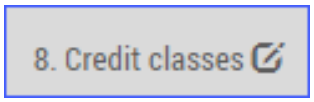
The 'Credit classes' tab summarises the ecosystem credits and their like-for-like options.

Further details on the information available in Tab 8 are provided below.

No user action is required in this tab.

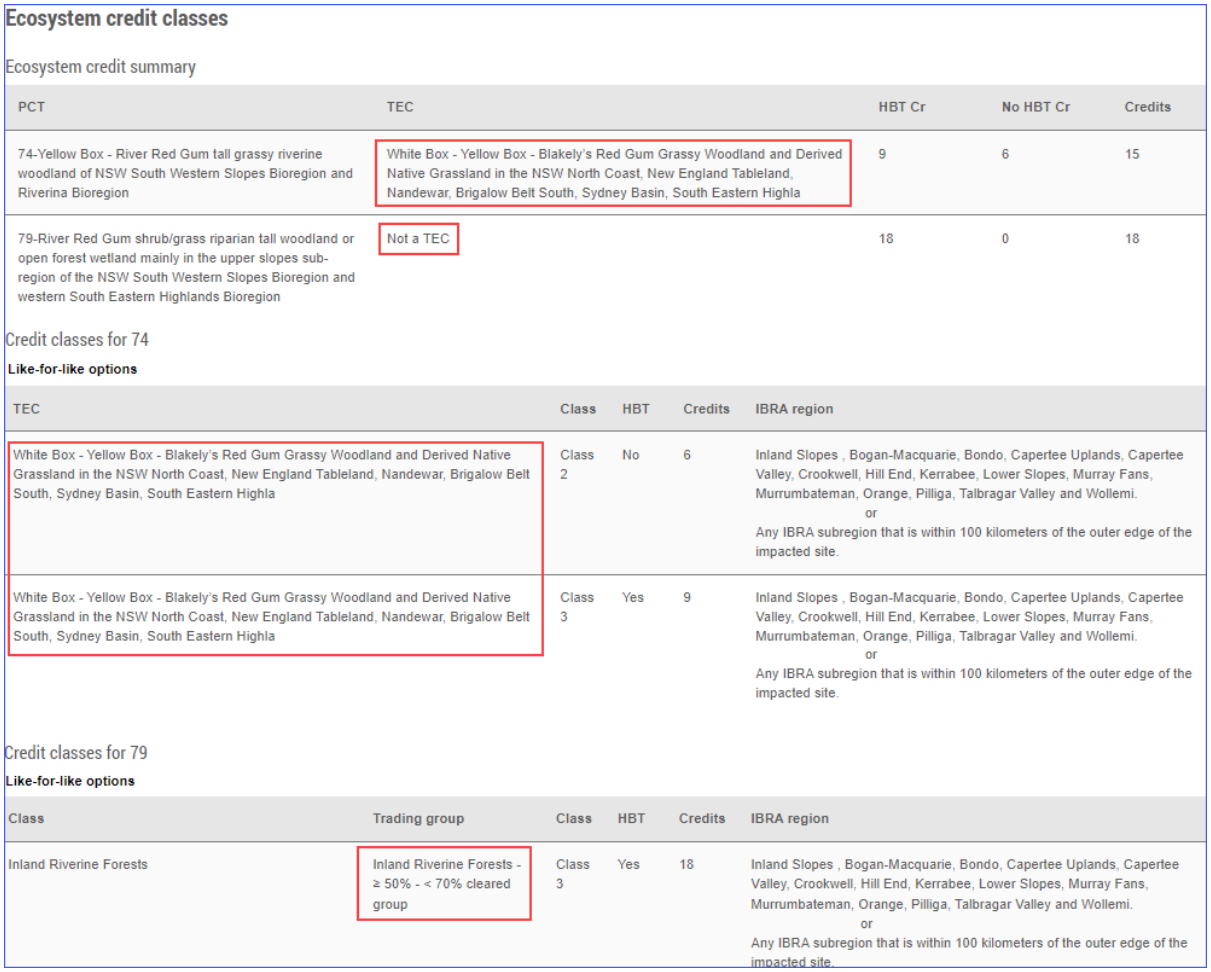


1. Select the ‘Credit classes’ tab to view ecosystem credit class information.



2. Tab 8 displays a summary of the ecosystem credit classes, whether there is an associated TEC or not, and their like-for-like options based on the PCTs and/or TECs added at Tab 3.

   For non-threatened vegetation (‘Not a TEC’), the BAM-C displays the associated vegetation class and lists the PCTs within that class. The BAM-C also displays the associated OTGs and IBRA subregions available for making a like-for-like credit trade. Refer to the *Offset rules and ecosystem credits* guidance for more information (see Appendix B).



Ecosystem credit classes

Ecosystem credit summary

PCT	TEC	HBT Cr	No HBT Cr	Credits
74-Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	9	6	15
79-River Red Gum shrub/grass riparian tall woodland or open forest wetland mainly in the upper slopes sub-region of the NSW South Western Slopes Bioregion and western South Eastern Highlands Bioregion	Not a TEC	18	0	18

Credit classes for 74

Like-for-like options

TEC	Class	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Class 2	No	6	Inland Slopes , Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Class 3	Yes	9	Inland Slopes , Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Credit classes for 79

Like-for-like options

Class	Trading group	Class	HBT	Credits	IBRA region
Inland Riverine Forests	Inland Riverine Forests - ≥ 50% - < 70% cleared group	Class 3	Yes	18	Inland Slopes , Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Tip

- See the BAM 2020, Subsection 10.2.1 and Section 10.3 for further information on offsetting ecosystem credits.

6.9 Price (Tab 9)

The BOPC was replaced by the BCF Charge System on 17 October 2022. The new BCF Charge System will now be used to determine the amount a proponent may pay into the BCF to meet a biodiversity offset obligation.

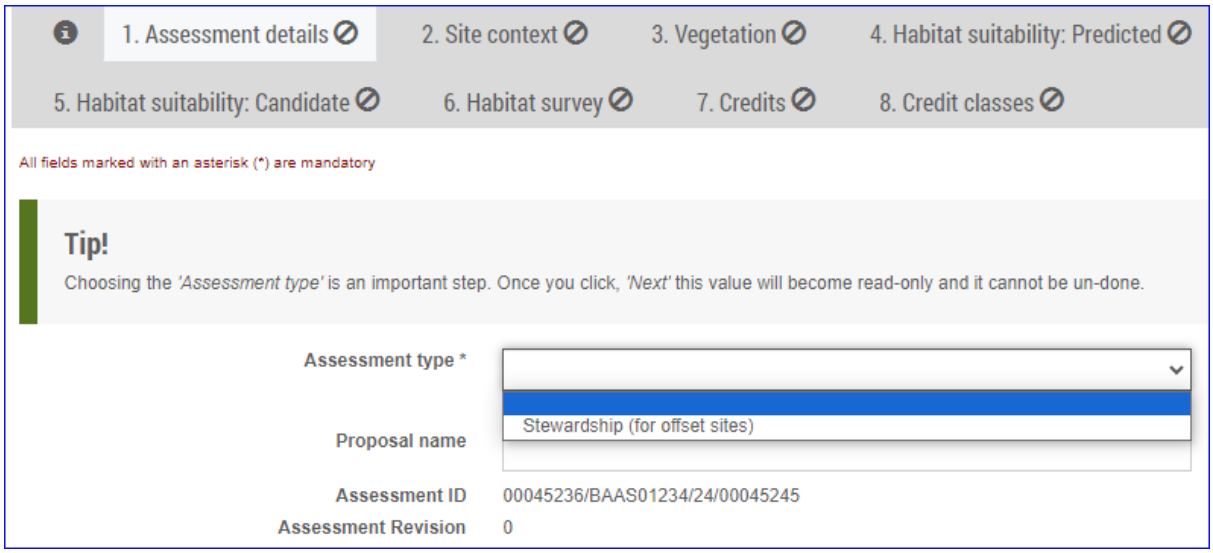
The BCT is responsible for administering the new charge system.

More information about the new BCF Charge System, including how to request a quote from the BCT, is available on the BCT website.

7. Creating a stewardship (for offset sites) assessment

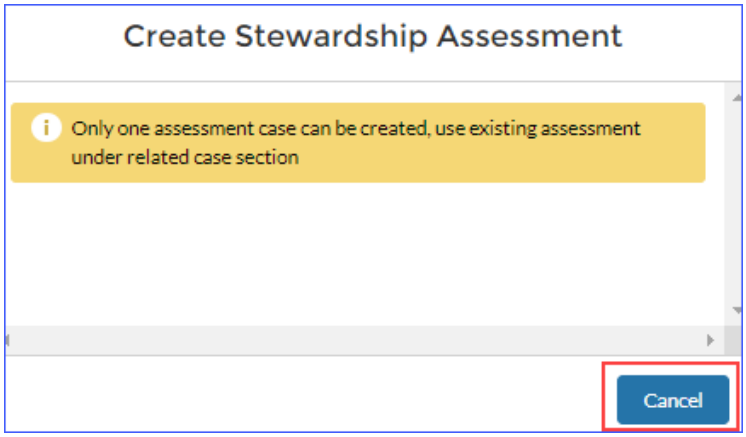
This chapter covers stewardship assessments. Refer to Chapter 4 of this guide for information on assessing general Part 4, Part 5 proposals, major projects, biocertification and general clearing, Chapter 5 for assessing small areas, and Chapter 6 for assessing scattered trees.

The BAM 2020 Stage 3, provides a consistent method for the assessment of the biodiversity values of a stewardship site and how those values will change under conservation management.

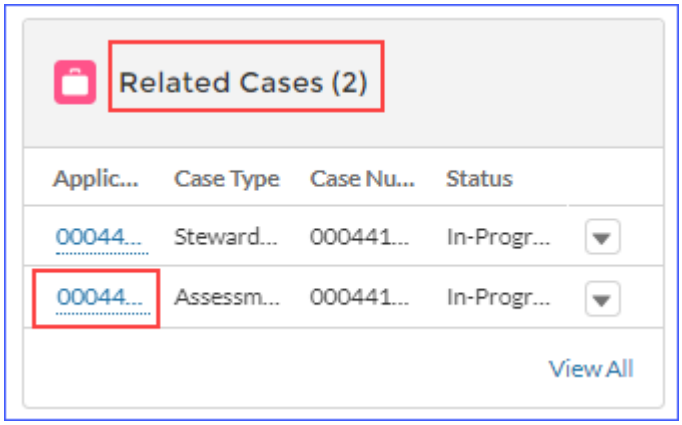


Each stewardship parent case in BOAMS is limited to one BAM-C assessment (child) case and one stewardship application form. When trying to create a stewardship assessment child case in BOAMS (by clicking 'Create Assessment'), if an assessment child case already exists an error will occur:

a. 'Only one assessment case can be created, use existing assessment under related case section'.
b. If this occurs, click 'Cancel'.



c. On the parent case in the 'Related Cases' section, select the 'Application number' for the previously created assessment case. Either open the BAM-C and continue to use the existing child case or delete the child case. Refer to Subsection 2.5.2 of this guide for instructions on deleting child cases.

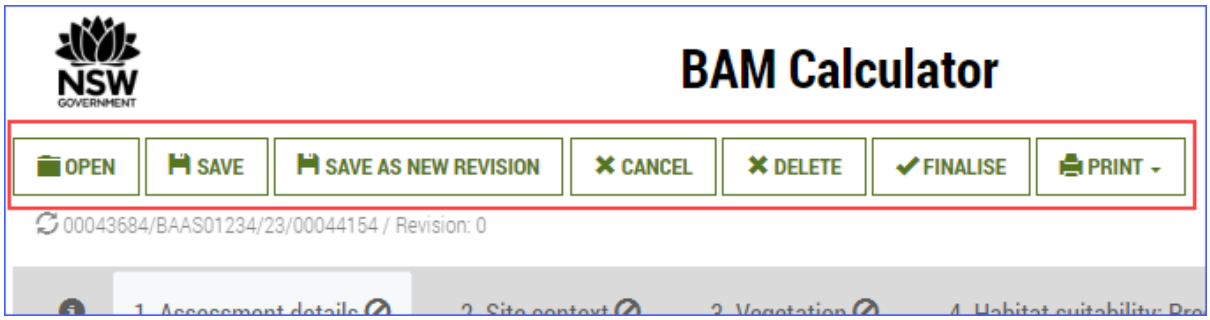


When entering data in each tab of the BAM-C, proceed to the next tab by using the 'Next' button at the bottom of the page. The data added then flows through to the next tab in the BAM-C.

Tip

- Remember to click 'Next' so the data entered flows through to the subsequent tabs and calculations.
- As tabs are completed it is possible to navigate between completed tabs.

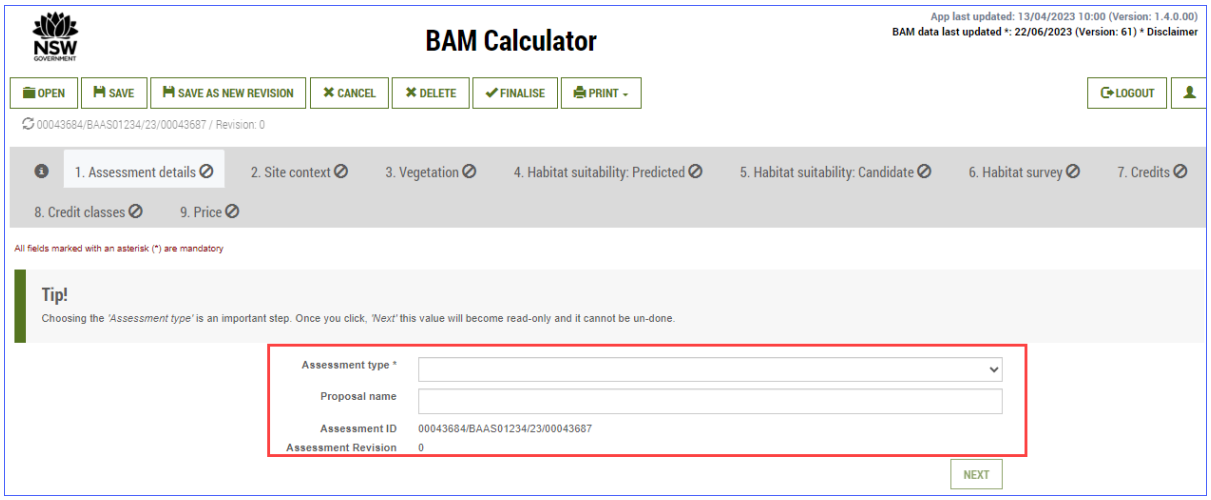
High-level functions act across all tabs in the BAM-C to help you manage assessments and create output from the calculator. Refer to Chapter 3 of this guide for information on these functions.



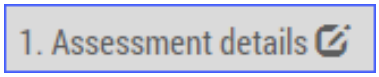
Sections 7.1–7.8 below detail how to use each of the tabs in the BAM-C to enter details for a stewardship assessment.

7.1 Assessment details (Tab 1)

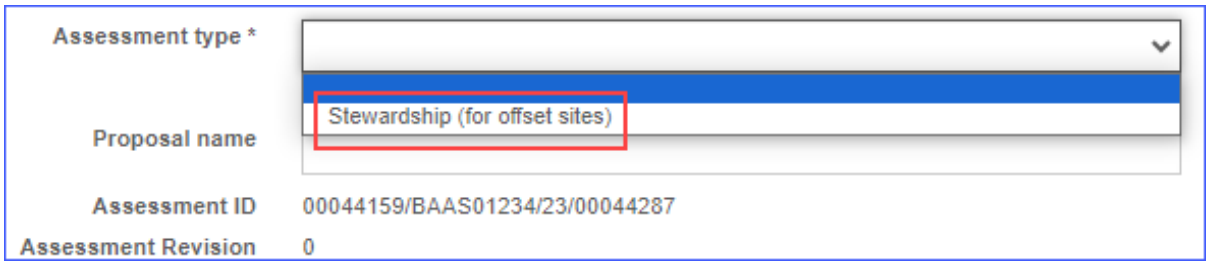
The ‘Assessment details’ tab captures the type of assessment being conducted and records the proposal name.



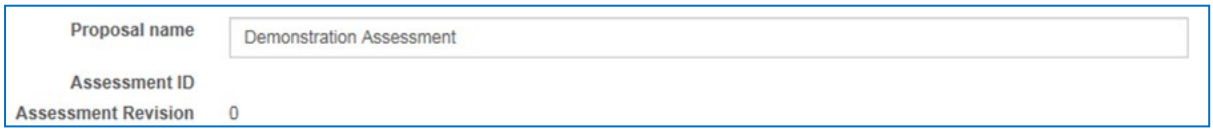
1. Click on the ‘Assessment details’ tab to enter assessment details.



2. Use the ‘Assessment type’ drop-down to select the ‘Stewardship (for offset sites)’ assessment type.



3. Enter a unique description in the ‘Proposal name’ field.



Tip

- The proposal name is a valuable identifier for the BAM-C assessment.
- A unique proposal name helps you distinguish differences between assessment revisions.

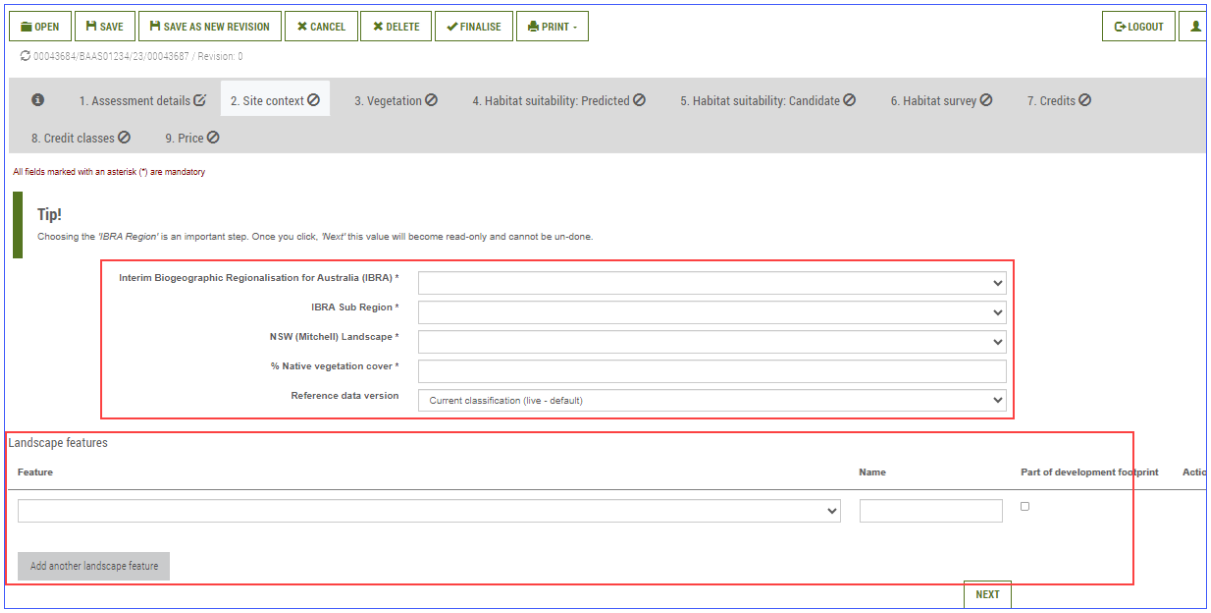
4. When all required information has been entered, click ‘Next’ to move to Tab 2.

Tip

- Once ‘Next’ is clicked the assessment type for the assessment is locked.
- Click ‘Next’ to move to the next tab to ensure the subsequent tabs contain the correct information and calculations.

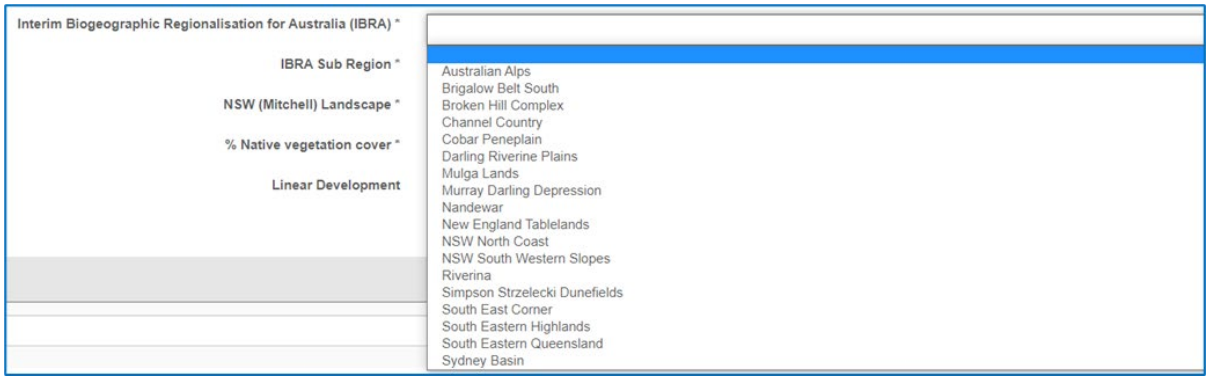
7.2 Site context (Tab 2)

The ‘Site context’ tab is used to capture information relating to the biogeographic and landscape setting of the site. The information required for this tab is displayed below.



1. The ‘Site context’ tab will be open if ‘Next’ was clicked on Tab 1.

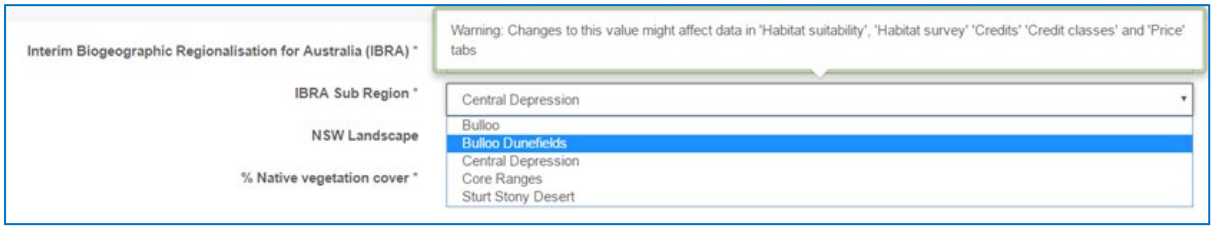
2. Use the ‘Interim Biogeographic Regionalisation for Australia (IBRA)’ drop-down to select the IBRA region. If the assessment occurs across multiple IBRA regions, select the IBRA region where the largest proportion of stewardship area will occur.



Tip

- See *Bioregions of NSW* for further information on the state's bioregions (see Appendix B).
- See BAM 2020, Chapter 3, for further information on establishing the site context.
- The IBRA subregion selection affects future selections of PCTs, TECs and species.

3. Use the 'IBRA Sub Region' drop-down to select the IBRA subregion in which most of the site is located. The drop-down is filtered based on the IBRA region selected in Step 2.

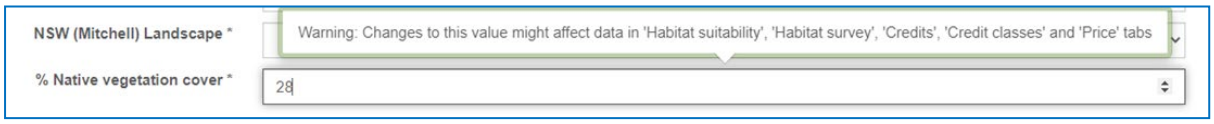


4. Use the 'NSW (Mitchell) Landscape' drop-down to select the landscape in which most of the proposal occurs.

Tip

- NSW (Mitchell) landscape does not influence calculations of VI or credit calculations, but is used in reporting.
- See *Descriptions for NSW (Mitchell) Landscapes* for further information (see Appendix B).

5. Enter a value for the percentage landscape native vegetation cover in the '% Native vegetation cover' field.



Tip

- See BAM 2020, Section 3.2 for further information on native vegetation cover.
- The % native vegetation cover value entered may affect the predicted and candidate fauna species lists. Refer to the definition of 'Suitable habitat' in the BAM 2020 Glossary for more information.

6. **Reference data version** – The revised Eastern NSW PCT Classification has been deployed into the BAM-C, and revisions to the remainder of the state will be rolled out over the coming years. The reference data version may have different options available depending on when the assessment was created and which IBRA region is selected.

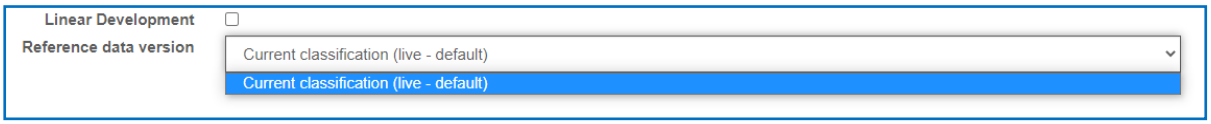
   Instructions are provided for the following scenarios:

   a. new assessments inside a revised NSW IBRA region
   b. existing assessments inside a newly revised NSW IBRA region
   c. new or existing assessments outside a newly revised NSW IBRA region.

   a. New assessments inside a revised NSW IBRA region

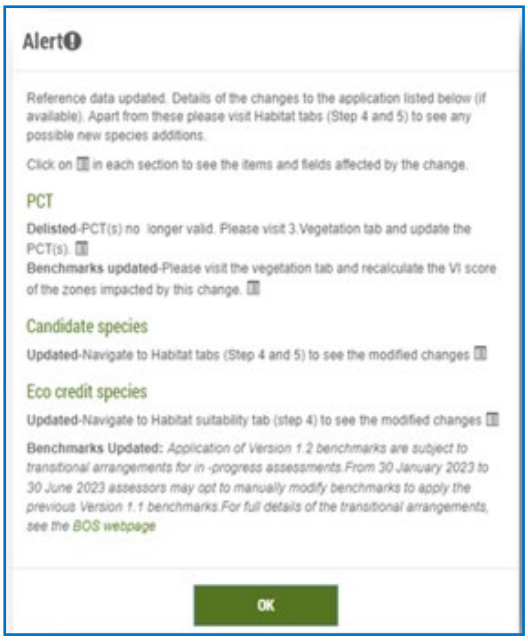
   All new assessments created after deployment of a revised NSW PCT classification will automatically use the revised NSW PCTs when an associated NSW IBRA region is selected.

   The only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



   b. Existing assessments inside a newly revised NSW IBRA region

   Reopening 'Open', 'Locked' or 'Finalised' assessments created before deployment of a newly revised NSW PCT classification will trigger an update with the revised NSW PCTs. This will trigger an alert detailing the changes that have occurred in the assessment.

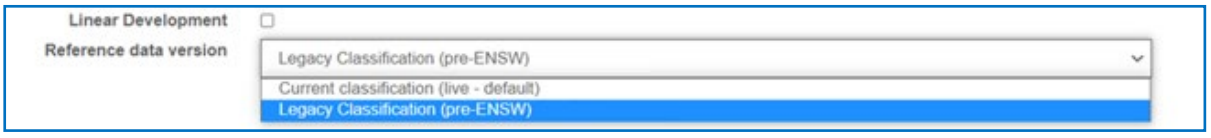


Tip

- Take a screenshot of the alert showing the updates. Alerts will not display again once the case has been saved.

To use legacy PCTs during a transitional period, select the legacy classification in the 'Reference data version' drop-down.

Alternatively, to use the revised NSW PCTs select 'Current classification (live – default)'.

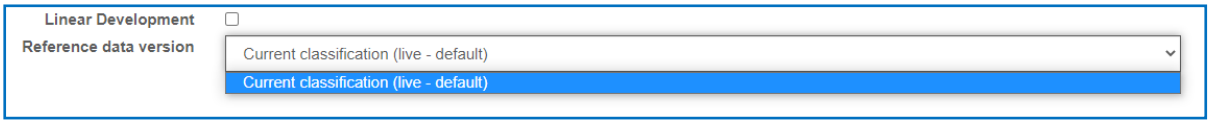


To progress an assessment with revised data, the following tabs may require amendment:

- Tab 3 – Vegetation
- Tab 4 – Habitat suitability: Predicted
- Tab 5 – Habitat suitability: Candidate
- Tab 6 – Habitat Survey.

c. New or existing assessments outside a revised NSW IBRA region

New or existing assessments outside of a newly revised NSW IBRA region will ***not*** update with new NSW PCTs, as they are not relevant. The only available option in the 'Reference data version' drop-down will be 'Current classification (live – default)'.



Tip

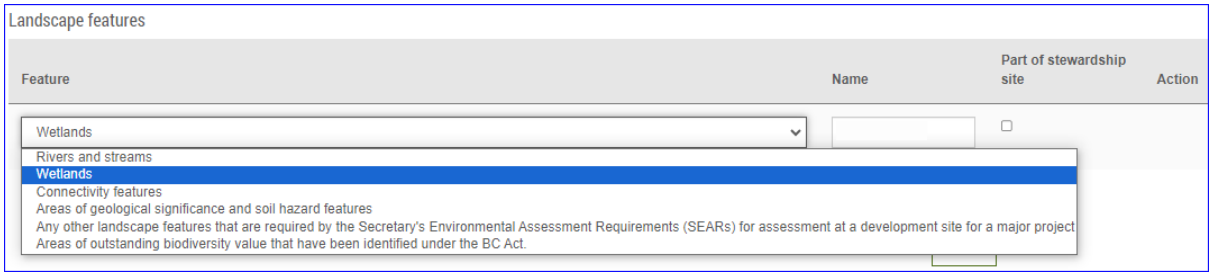
- Further information on transitional arrangements is available from the *New vegetation integrity benchmarks and plant community types* webpage (see Appendix B).
- When a transitional period ends, the only option in the 'Reference data version' drop-down will be 'Current classification (live – default)'. At this time, revised NSW PCTs must be used for all assessments within the associated NSW IBRA regions.
- Clear your browser cache to ensure any newly revised NSW PCTs and the legacy reference data version display correctly in the drop-down.

Clearing the BAM-C cache – If you have a problem selecting legacy PCTs (during a transitional period) in a case created before deploying any revised NSW PCTs, clear your cache in the BAM-C. See Appendix A of this guide for instructions on clearing the cache.

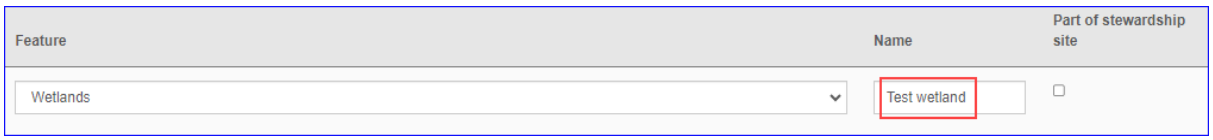
Tip

- If you cannot clear the cache to see the legacy classification in the 'Reference data version' drop-down, contact the BOS Help Desk for assistance.

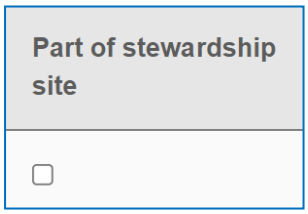
7. The 'Landscape features' field can be left blank when no listed landscape features are associated with the site. If a landscape feature is associated with the site, use the landscape 'Feature' drop-down to select the type of landscape feature associated with the site.



8. Enter the name of the landscape feature in the 'Name' field.

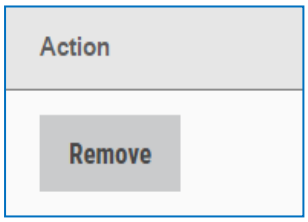


9. Tick the checkbox in the ‘Part of stewardship site’ column if the feature is within the stewardship site.



10. Click ‘Add another landscape feature’ to accept the entered data. This will add another landscape feature row, which can be left blank if no further landscape features exist.

11. If you need to remove a landscape feature, click ‘Remove’ in the ‘Action’ column.



12. When all required information has been entered, click ‘Next’ to move to Tab 3.

Tip

- Once ‘Next’ is clicked, the IBRA region for the assessment is locked.
- To change the IBRA region, cancel or exit the assessment before saving and reopen the assessment.
- If the IBRA region is incorrect and the case has been saved, delete the assessment and create a new assessment through BOAMS (using the same parent case).
- Click ‘Next’ to move to the next tab to ensure subsequent tabs contain the correct information and calculations.

7.3 Vegetation (Tab 3)

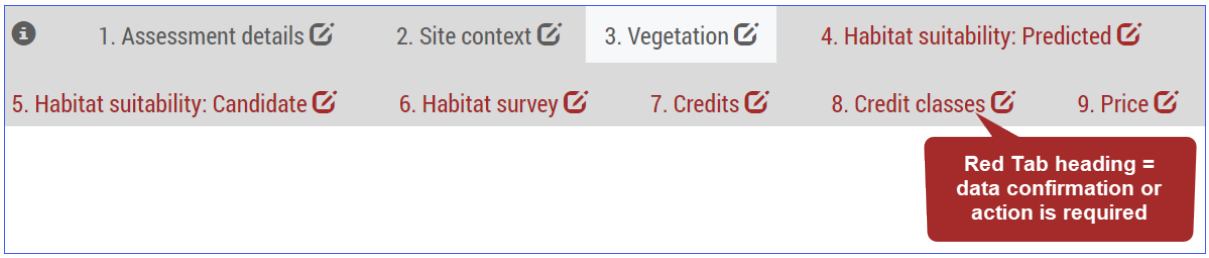
The ‘Vegetation’ tab records the PCTs on the site and captures individual plot data that is used to calculate the VI scores for each plot with and without management.

The method for recording PCTs and TECs at a site and calculating current vegetation condition of a site is the same for all assessment types. Refer to Chapter 4 of the BAM 2020 for further information.

7.3.1 Define the PCTs and TECs

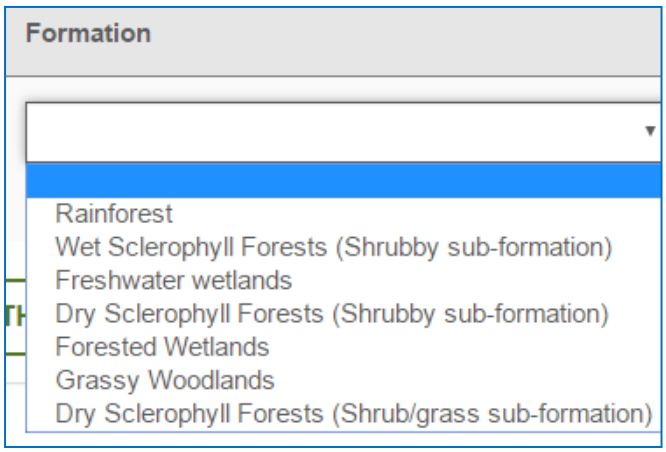
1. The ‘Vegetation’ tab will be open if ‘Next’ was clicked on Tab 2. When reopening an assessment with existing information, click on Tab 3 to open it.

2. Note that if any tab headings are shaded in red, action is required, or information needs to be entered/confirmed on that tab. Remember to click ‘Next’ to move through the tabs if any changes are made.



3. If the PCT name or number is known, the ‘Plant community type’ field can be added as the first step, automatically populating the formation and class fields.

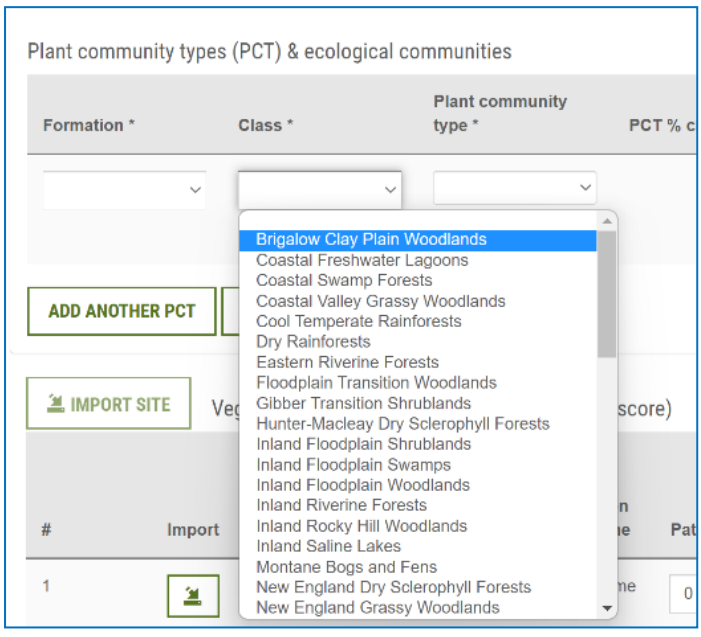
   If the PCT name or number is not known, use the ‘Formation’ drop-down to select the formation for the required PCT.



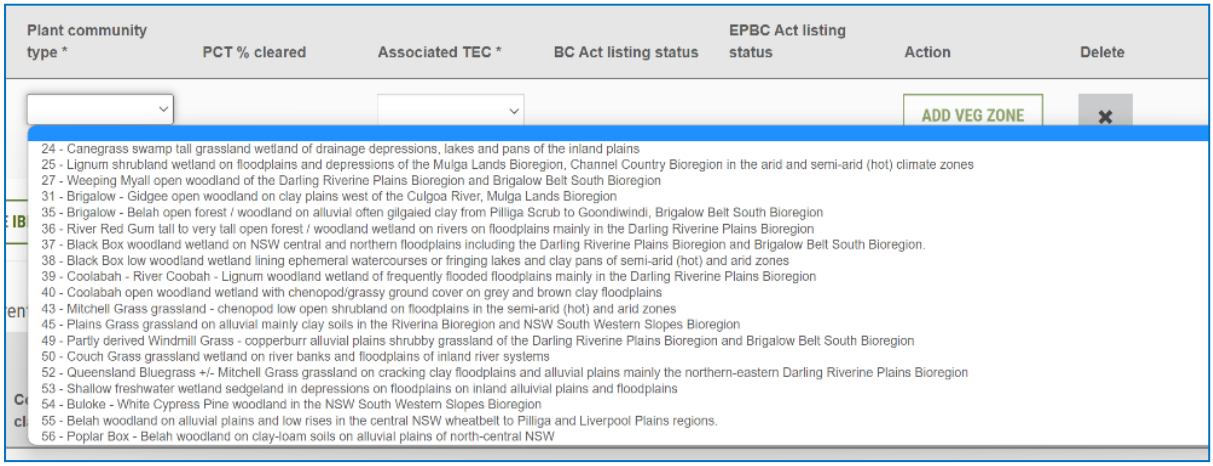
Tip

- If the PCT or number is known, enter this first and the formation and class fields will be populated automatically.
- Only PCTs associated with the IBRA region and IBRA subregion will be available.
- Refer to the webpage *About BioNet Vegetation Classification* (Veg-C) for further information about PCTs and TECs (see Appendix B).

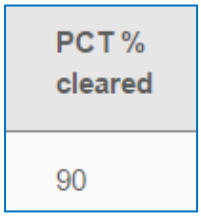
4. Use the ‘Class’ drop-down (if PCT name or number is not known) to select the required class. The classes available will be filtered to those associated with the formation if a formation was selected in step 3.



5. Use the ‘Plant community type’ drop-down to select the required PCT. The PCTs available will be filtered to those associated with the class if a class was selected in step 4.



6. The % cleared value for the PCT will be displayed under ‘PCT % cleared’. The % cleared value is an estimate of the extent to which a PCT has been cleared since European settlement and is used when assigning a non-threatened PCT to an OTG.



Tip

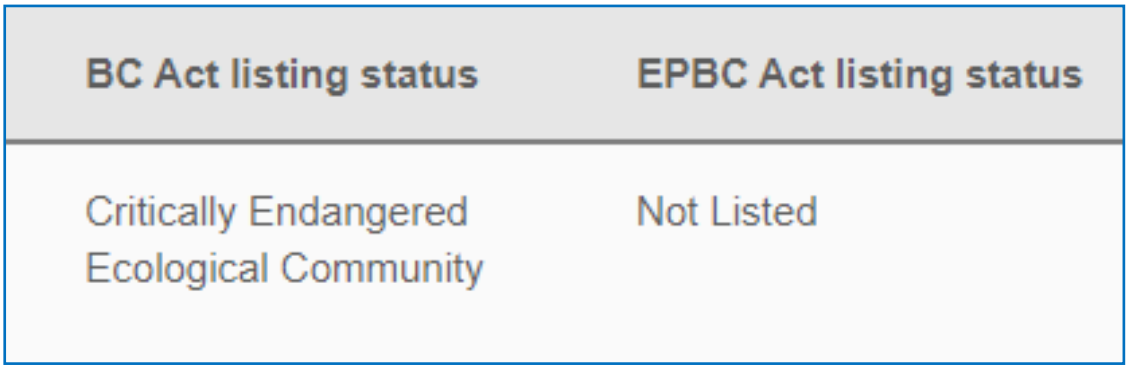
- Detailed information on each PCT and its geographic distribution is available as a downloadable and refreshable Power Query from *NSW BioNet Resources* (see Appendix B), ‘BioNet Vegetation Classification’ > ‘Power Queries’ > ‘Plant Community Type data’.
- Refer to the *Offset rules and ecosystem credits* guidance for more information on % cleared and OTGs (see Appendix B).

7. Use the ‘Associated TEC’ drop-down to select the relevant TEC. If no TEC is associated with the PCT, select ‘Not a TEC’.

Tip

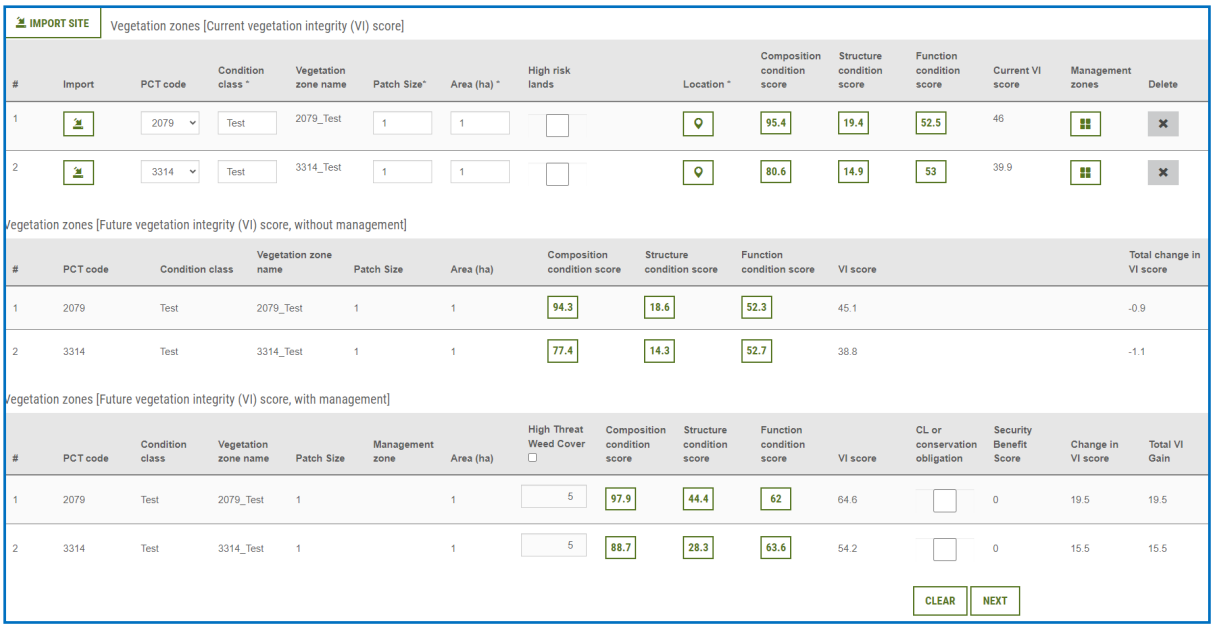
- Only TECs associated with the selected PCT (in BioNet) are shown in the drop-down. Where a TEC is present at the site but is unavailable in the drop-down list, it may be because the TEC is not associated with the IBRA region and IBRA subregion chosen.
- A detailed description of each TEC is available through the *Threatened biodiversity profile search* app (see Appendix B).
- Detailed information on the PCT to TEC associations and the applicable subregions is available as a downloadable and refreshable Power Query from the NSW BioNet Resources webpage (see Appendix B). 'BioNet Vegetation Classification' > 'Power queries' > 'Threatened Ecological Community to Plant Community Types (PCT) Association data'.
- To request a review of a TEC association, contact the BOS Help Desk.

8. The state and Commonwealth listing status of a TEC will be displayed under the 'BC Act listing status' and 'EPBC Act listing status' headings, respectively.



9. Click 'Add veg zone'.

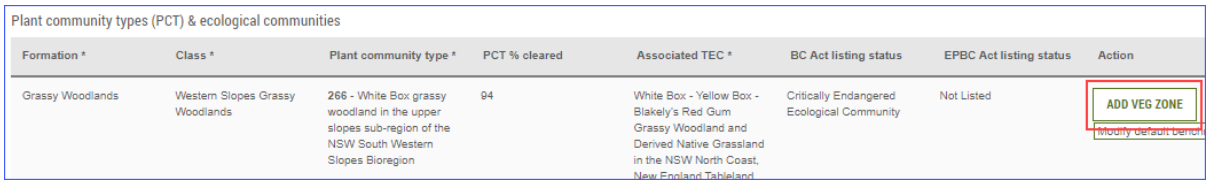
10. A vegetation zone record will be added to the following sections:
    - 'Vegetation zones (Current vegetation integrity score)'
    - 'Vegetation zones (Future vegetation integrity score, without management)'
    - 'Vegetation zones (Future vegetation integrity score, with management)'.



Tip

- Adding a unique condition class name to each vegetation zone will help you distinguish the vegetation zones throughout the assessment, especially when both a TEC and non-TEC have been identified on site for the same PCT.

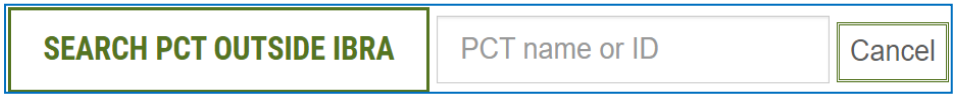
11. For PCTs with multiple vegetation zones, click ‘Add veg zone’ beside the applicable PCT to add another vegetation zone.



12. A zone number will be generated for each vegetation zone and the relevant PCT number for each record displayed.

13. Click ‘Add another PCT’ (if required) and repeat the above steps for additional PCTs.

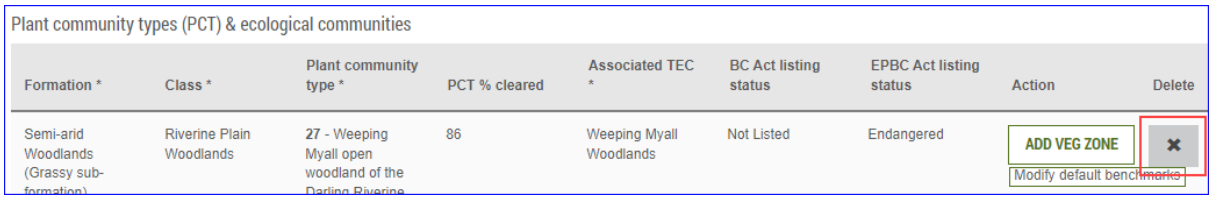
14. If the required PCT is missing from the PCT list, click ‘Search PCT outside IBRA’, enter the name or PCT number to search, and then select the PCT. Repeat the above steps for adding vegetation zones.



Tip

- You can only add PCTs that are associated with the selected IBRA region when you use the ‘Add Another PCT’ button.
- With the ‘Search PCT outside IBRA’ button you can add any approved PCT, not only those associated with the selected IBRA region.
- Some PCTs have no (or incomplete) benchmarks in Veg-C. For these PCTs, an error will be displayed, and the PCT cannot be used in the assessment.

15. To delete a PCT or a vegetation zone click the button on the right under ‘Delete’.



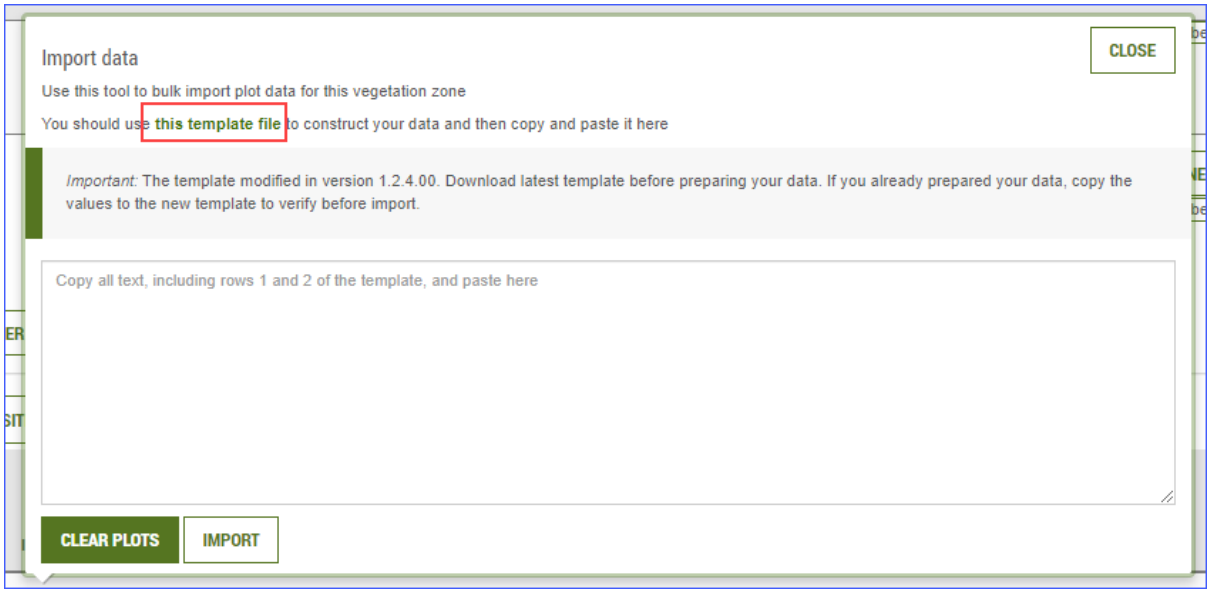
Tip

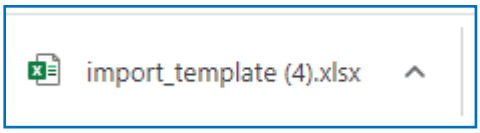
- Vegetation zone and site data can be imported into the BAM-C in CSV file format (see Subsection 7.3.2) or added manually (see Subsection 7.3.3). See below for instructions.

7.3.2 Import vegetation zones

1. To import vegetation zone data, click the import icon beside the vegetation zone.

2. Download the CSV template by selecting ‘this template file’ in the import pop-up and an excel import data template will become available.





3. Open and populate the template with observation values and save the template:
   - row 1 of the template is reserved for headers
   - row 2 of the template is reserved for example data
   - users must enter plot data into the template from row 3 onwards. Data for additional plots (for the same vegetation zone) can be imported by adding plot data to rows 4 onwards.

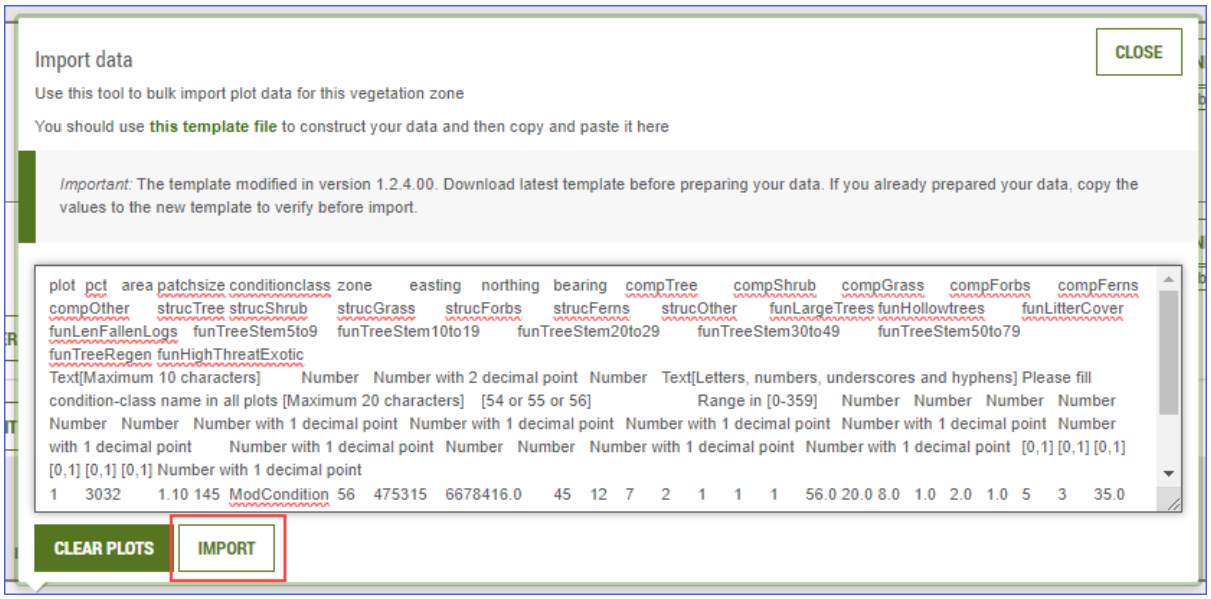
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShru	compGras	compForb	compFern	compOthe	strucTree
2	Text[Maximum 10	Number	Number with 2 decin	Number	Text[Letters, numbe	[54 or 55 or 56]			Range in [	Number	Number	Number	Number	Number	Number	Number w
3	1	3032	1.10	145	ModCondition	56	475315	6678416.0	45	12	7	2	1	1	1	56.0
4	2	3032	0.30	145	GoodCondition	56	475316	6678414.0	40	10	4	2	0	1	0	46.0

4. Select and copy all column headings in rows 1 and 2 and the data from row 3 (and onwards if there is more than one plot). Make sure that no blank columns or rows are selected.

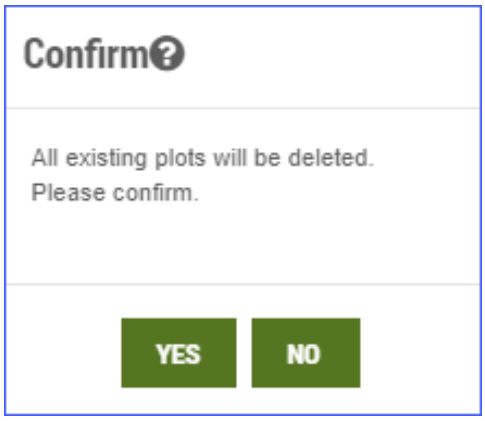
	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG
1	strucOthe	funLargeT	funHollow	funLitterC	funLenFal	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeSt	funTreeRe	funHighTh	reatExotic
2	Number w	Number	Number	Number w	Number w	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	[0,1]	Number w	ith 1 decima
3	0.0	2	0	50.0	55.0	0	0	1	1	0	1	2.0	
4	0.0	1	2	75.0	22.0	0	1	1	0	0	1	9.0	
5													

5. Click the import icon to reopen the ‘Import data’ pop-up (if not already open).

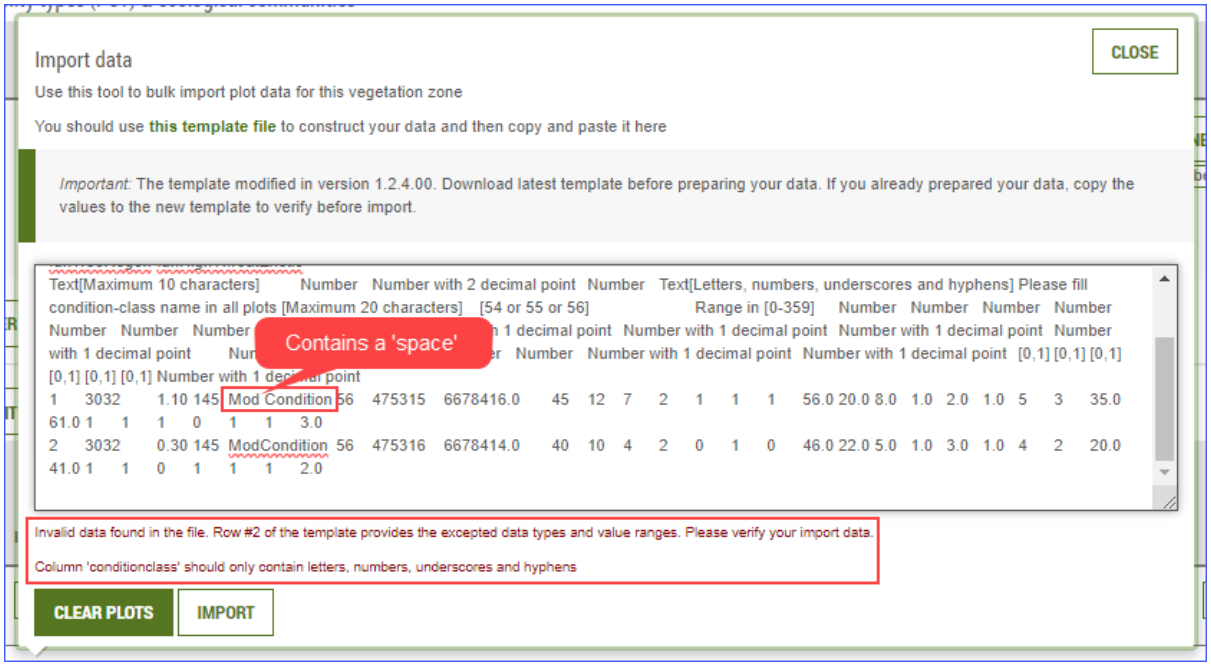
6. Paste the copied data from the template into the ‘Import data’ pop-up and click ‘Import’.



7. A pop-up will open asking you to confirm that all existing plots will be deleted. Click ‘Yes’ to delete any previous plot data or ‘No’ to cancel and retain the existing plot data.

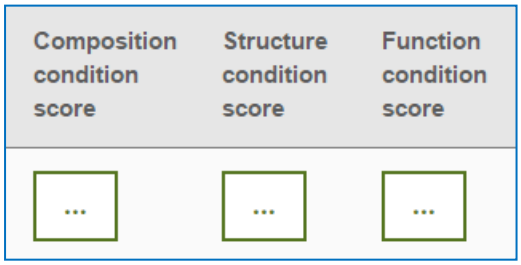


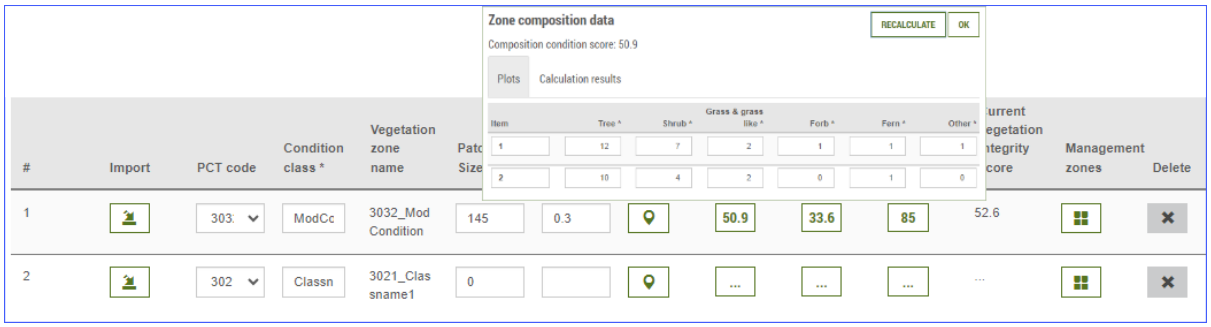
8. If the import was unsuccessful or only partially successful, the ‘Import data’ pop-up will display an error message. Correct the error(s) in the CSV file, then copy and paste the corrected data, and re-import.



9. Click ‘Close’.

10. The data will be imported into the relevant condition score pop-up fields and the scores will be calculated automatically. The condition score fields for each attribute will change from showing no score (indicated by an ellipsis) to a numeric score value.





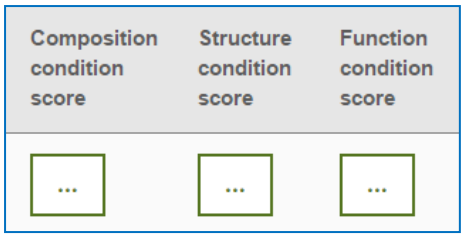
Tip

- If assessing a non-woody PCT, do not specify any values for function attributes other than HTW cover in the CSV import file.
- When copying the data from the template, ensure no extra columns are selected or an error will occur.
- The import template will not create management zones or detect all types of high risk lands. If the import template is used, ensure these fields are manually completed if relevant.

11. To clear imported data, click the 'Import' icon to reopen the 'Import' pop-up.

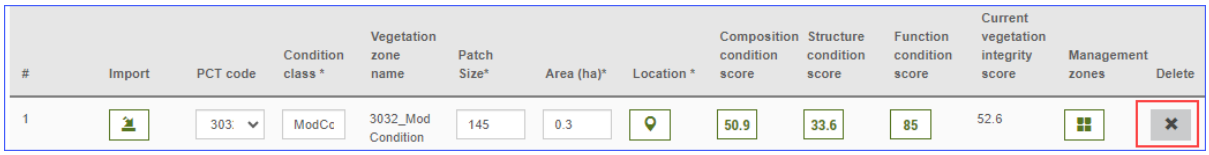
12. Click 'Clear plots'.

13. All imported data will be cleared and the condition score fields will revert to displaying no score ('...').



14. The above process can be performed for all zones at the site (rather than on a zone-by-zone basis) using the 'Import site' button and following the same process outlined in steps 1–12 above.

15. Individual zones can be removed by clicking the button on the right under 'Delete'.

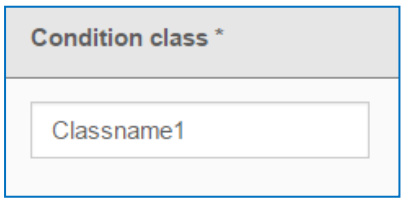


7.3.3 Manually enter vegetation zone data

This section describes how to manually enter the vegetation zone data into the BAM-C to calculate the current VI score.

1. The ‘PCT code’ field is populated automatically when the ‘Add veg zone’ is clicked.

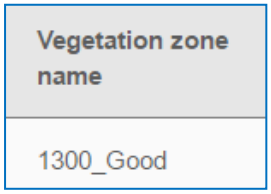
2. Select ‘Condition class’ and enter a condition class label for the zone. The name must not include spaces, but hyphens or underscores can be used as an alternative (for example, do not enter ‘Mod TEC’, instead use ‘Mod-TEC’ or ‘Mod_TEC’).



Tip

- Zone condition class is solely a label to help identify the zone and does not influence VI or credit calculations.

3. A vegetation zone name will be generated automatically based on the condition class and PCT code and displays under the ‘Vegetation zone name’ heading.

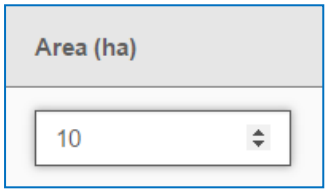


4. Select ‘Patch Size’ and enter the relevant patch size area (in hectares) for the zone.

Tip

- The patch size value is used to filter the list of fauna species presented in the predicted and candidate species tabs. Refer to the BAM 2020, Subsection 4.3.2 for more information on patch size.
- Making changes to the ‘patch size’ value may affect data in the ‘Habitat suitability’, ‘Habitat survey’, ‘Credits’ and ‘Credit classes’ tabs.

5. Enter the area for the vegetation zone in the ‘Area (ha)’ field.

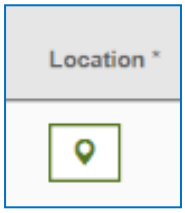


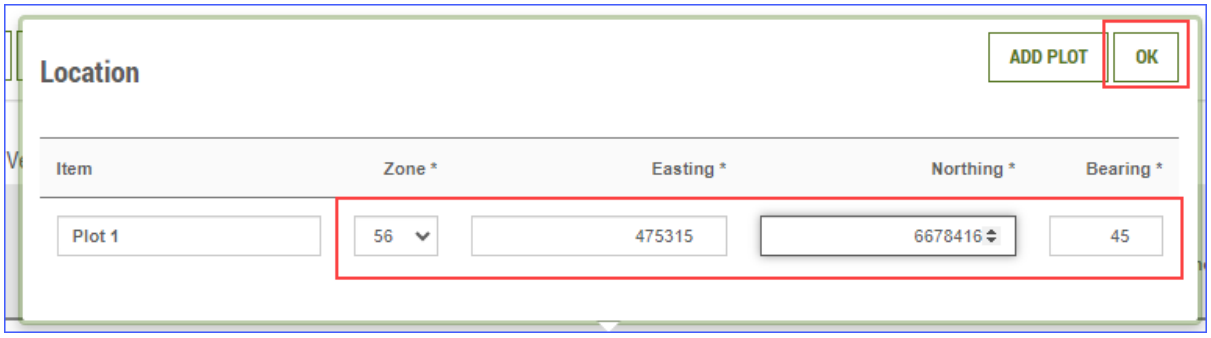
6. The BAM-C will automatically select ‘High risk lands’ if the site is located in an NSW (Mitchell) landscape that is ≥30% cleared, or the native vegetation is listed as an endangered or critically endangered community. However, you can also tick the ‘High risk lands’ checkbox if the site meets other criteria identified in BAM 2020, Subsection 11.4.1(6a–f).

Tip

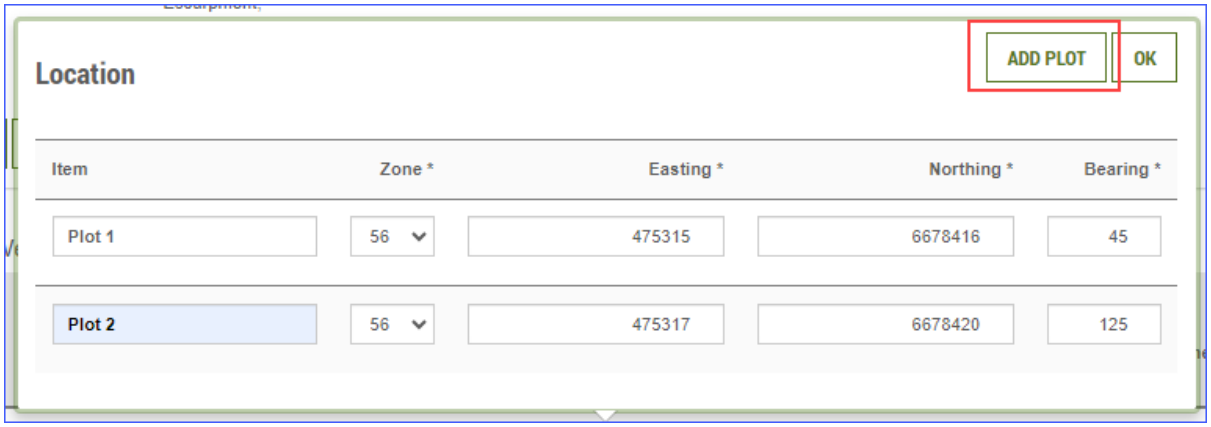
- The area of a vegetation zone will determine the number of plots required. Refer to the BAM 2020, Subsection 4.3.4 (Table 3). The BAM-C automatically adds the number of plots required based on the ‘Area (ha)’ entered.
- Ensure there is at least one vegetation zone for each PCT. Use the scroll bar to the right of the vegetation zone list to confirm each PCT has a vegetation zone.
- The minimum vegetation zone ‘Area (ha)’ is 0.01 ha. If a zone is smaller than 0.01 ha, the BAM-C will automatically round-up the area to 0.01 ha (values of 0.005–0.009 ha will be rounded up). If the area is less than 0.005 ha, consider adding the area to another vegetation zone.
- The ‘Patch size’ should be equal to or greater than the ‘Area (ha)’ size (when the total ‘Area’ of the vegetation zone represents native vegetation).

7. Click the ‘Location’ icon and add plot location details.

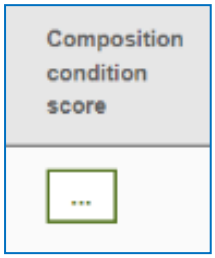




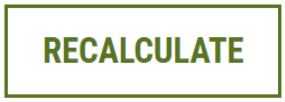
8. If additional plots are required, click ‘Add plot’. Once the required plot data has been added click ‘OK’. Note that adding a plot to the ‘Location’ field will also add a plot to the ‘Composition’, ‘Structure’ and ‘Function’ condition score fields.



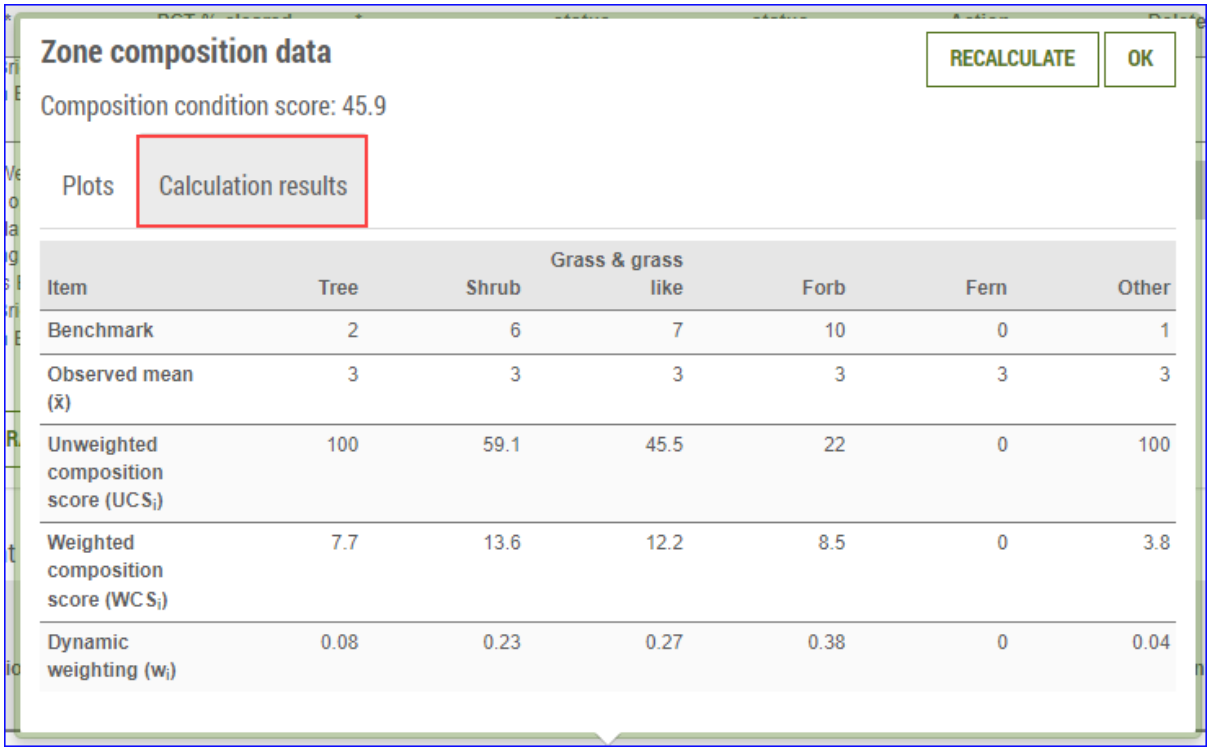
9. Select ‘Composition condition score’ and enter composition data.



10. Click ‘Recalculate’ to update calculation of the composition score for the zone, or ‘OK’ to update and close the composition score pop-up.



11. Select the ‘Calculation results’ tab on the ‘Zone composition data’ pop-up to see the underlying data used to calculate the score.



Item	Tree	Shrub	Grass & grass like	Forb	Fern	Other
Benchmark	2	6	7	10	0	1
Observed mean ($\bar{x}$)	3	3	3	3	3	3
Unweighted composition score (UCS_i)	100	59.1	45.5	22	0	100
Weighted composition score (WCS_i)	7.7	13.6	12.2	8.5	0	3.8
Dynamic weighting (w_i)	0.08	0.23	0.27	0.38	0	0.04

12. Click ‘OK’.

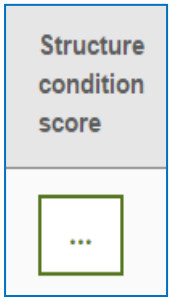
Tip

The following calculations are shown in the zone:

- **Benchmarks** – these values indicate benchmark reference values for the vegetation class/IBRA combination of the zone.
- **Observed mean** – this is the average of observed values entered for all plots for a specific growth form group.
- **Unweighted composition score** – BAM-C calculates and displays the unweighted condition score for the relevant growth form group. This calculation converts observed mean values to continuous unweighted condition scores using a Weibull (continuous probability) distribution.
- **Weighted composition score** – BAM-C calculates and displays the weighted condition score for the relevant growth form group. This calculation applies a dynamic weighting based on the proportional contribution of each growth form group benchmark function to the benchmark total function (sum of benchmark function across all growth form groups).

- **Dynamic weighting** – BAM-C calculates and displays a dynamic weighting based on the proportional contribution of each growth form group benchmark condition attribute to the benchmark total condition (sum of benchmark condition attributes across all growth form groups).
- Weightings for structure and function are calculated using a similar approach. For further information on these weightings and calculations refer to Appendix H of the BAM 2020.
- For further information on determining the VI score refer to Appendix H of the BAM 2020.

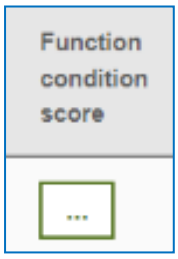
13. Select 'Structure condition score' to open the pop-up and repeat steps 9–12 to calculate the structure score.

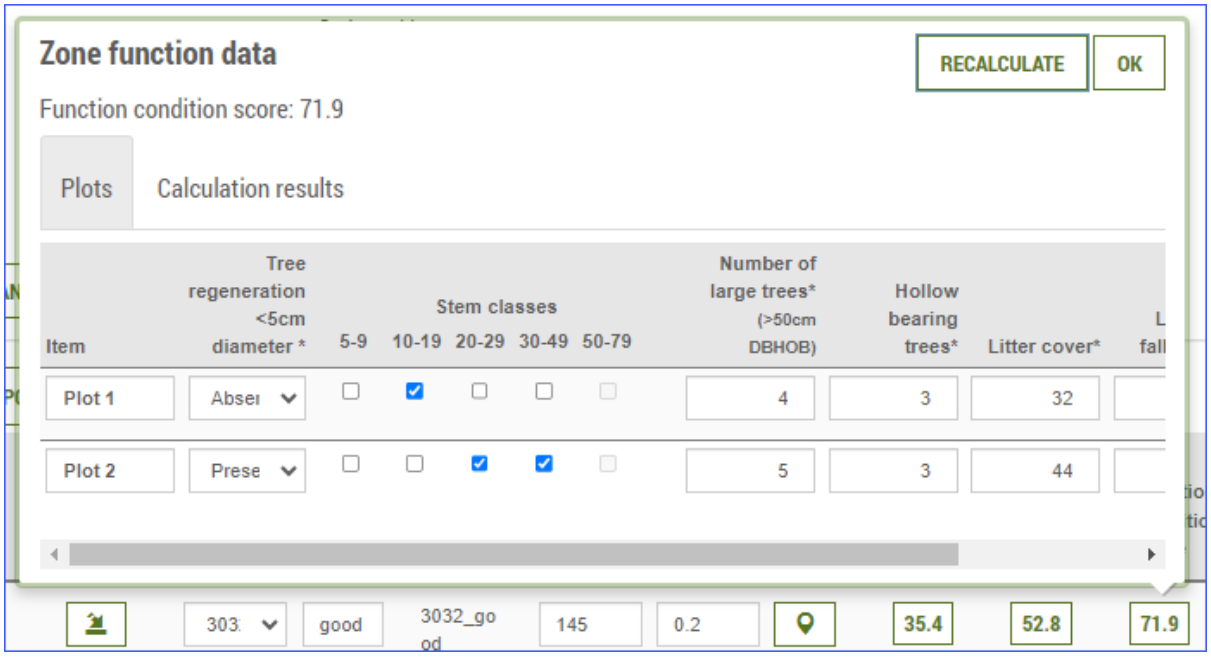


Tip

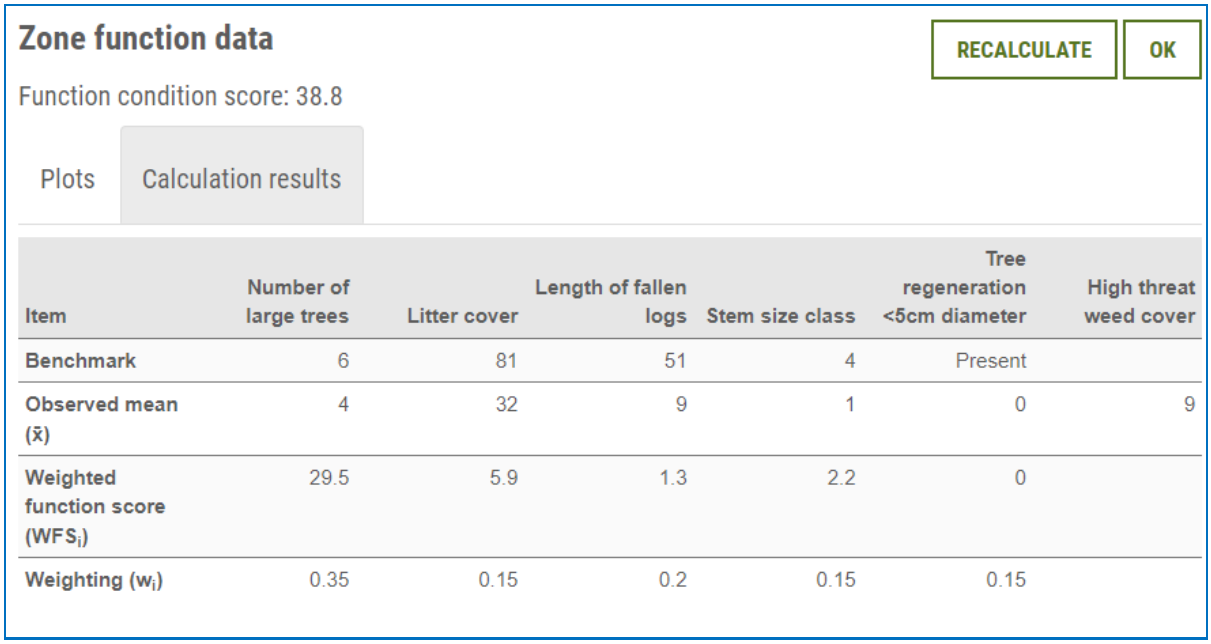
- The same calculations as those described for composition are performed for structure (see BAM 2020, Appendix H).

14. Select ‘Function condition score’ to open the pop-up and repeat steps 9–12 to calculate the function score.





15. Select the ‘Calculation results’ tab to see the underlying data used to calculate the score.

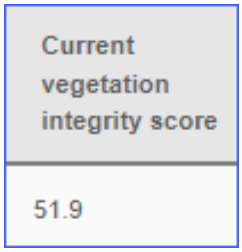


Item	Number of large trees	Litter cover	Length of fallen logs	Stem size class	Tree regeneration <5cm diameter	High threat weed cover
Benchmark	6	81	51	4	Present	
Observed mean ($\bar{x}$)	4	32	9	1	0	9
Weighted function score (WFS_i)	29.5	5.9	1.3	2.2	0	
Weighting (w_i)	0.35	0.15	0.2	0.15	0.15	

Tip

- Some fields in the function tab will be restricted based on the PCT selected. For example, for grassland PCTs the fields relating to trees will be greyed out.
- Weightings for function are static rather than dynamic, as defined in BAM 2020, Appendix H.3.
- Unwanted plot(s) can be removed by deleting them in the 'Location' pop-up. If you delete a plot, the applicable plot data will also be deleted from the composition, structure and function fields.

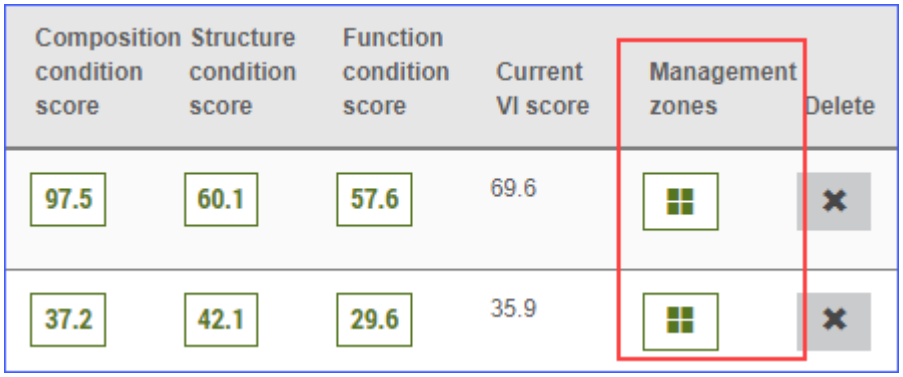
16. After completing the composition, structure and function calculations, the current VI score will be displayed.



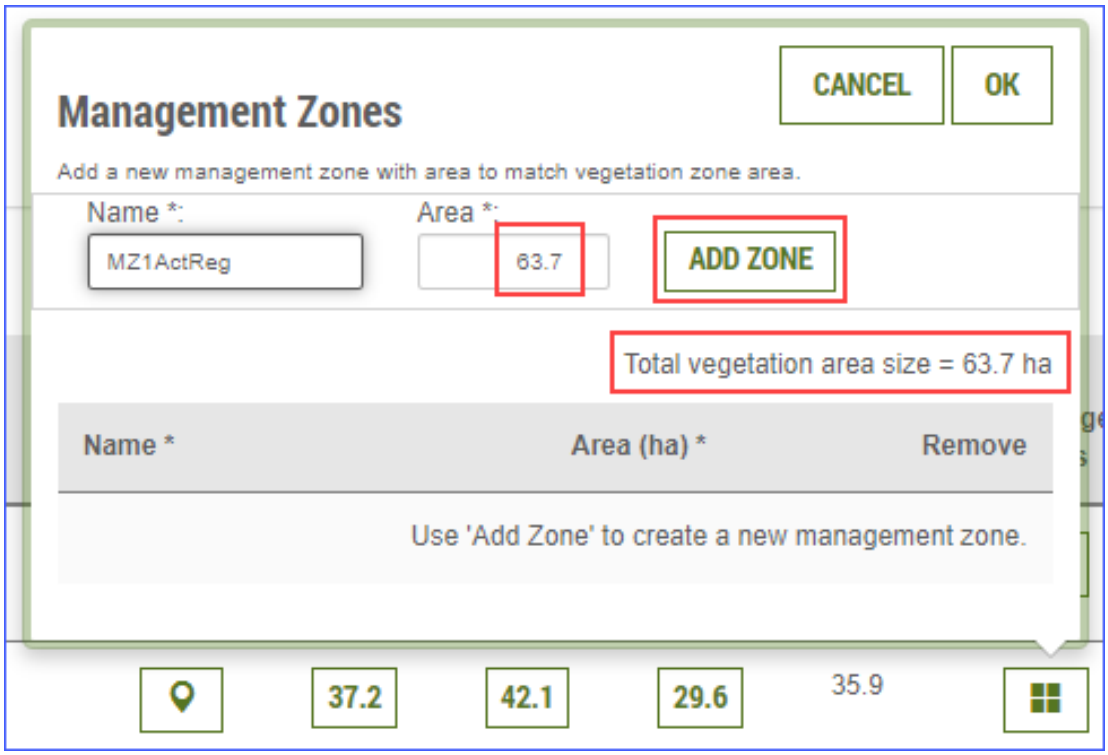
7.3.4 Calculate vegetation integrity for sites with multiple management zones (optional)

Management zones can be added to an assessment to identify areas of a vegetation zone that will have different levels or types of management.

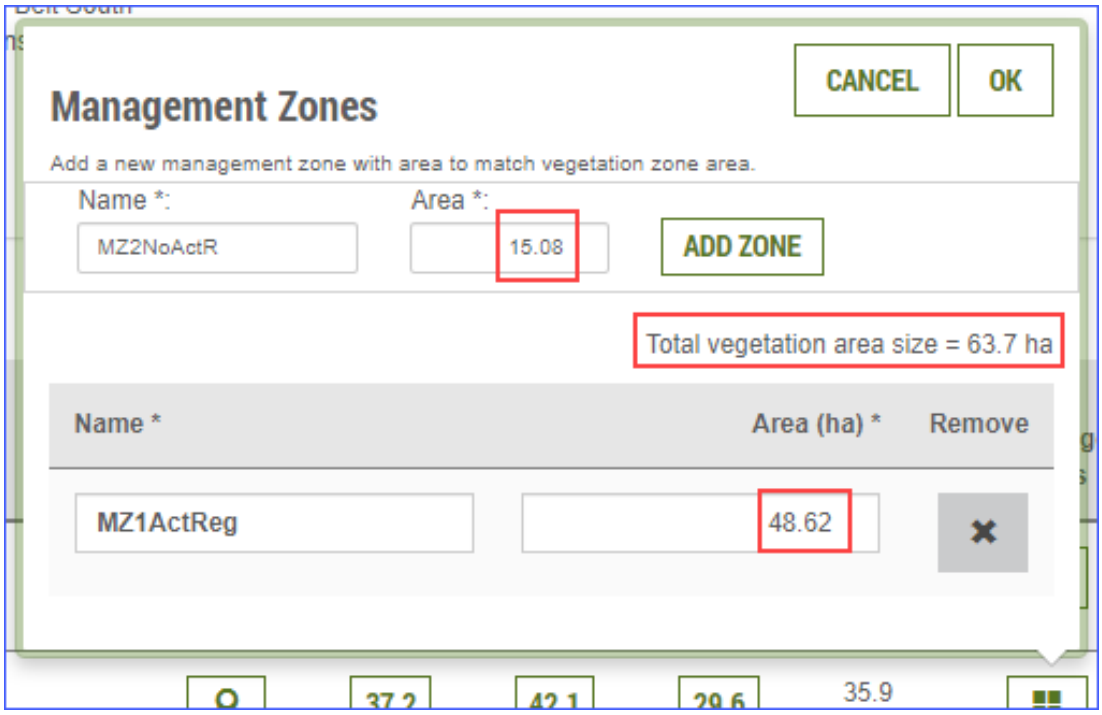
1. To add a management zone to the assessment, click the icon under 'Management zones'.

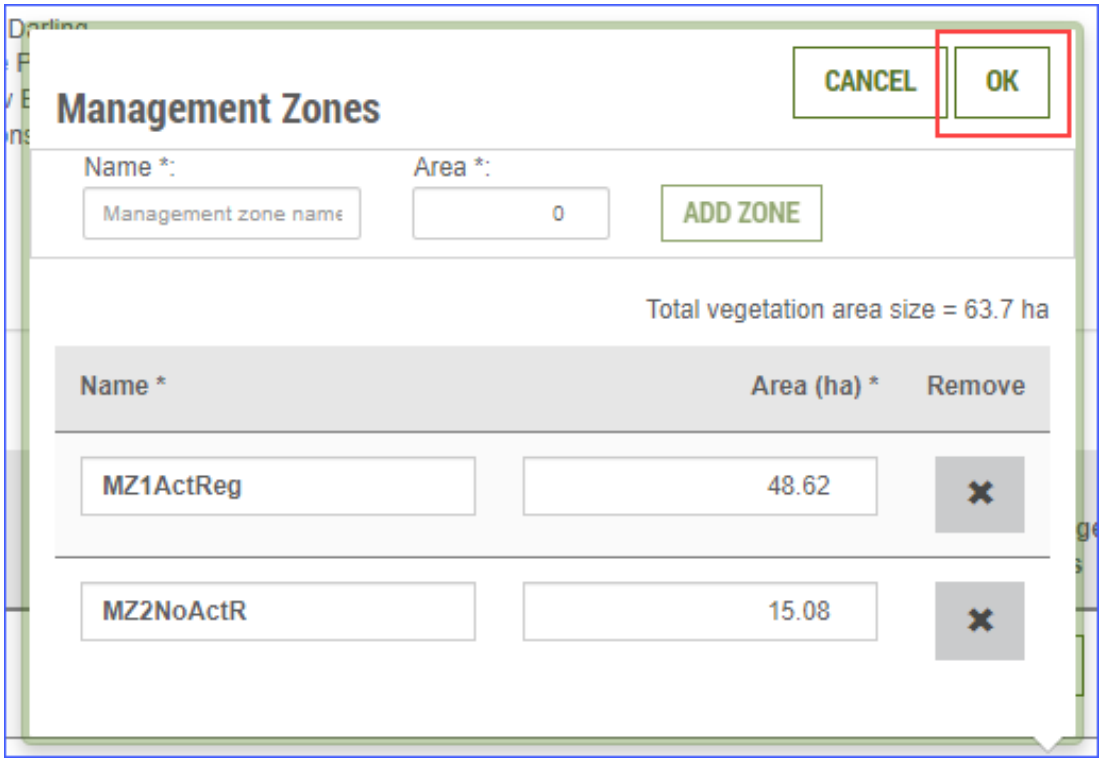


2. The ‘Area’ value is automatically populated based on the area of the vegetation zone. Add a name, then click ‘Add zone’ and then ‘OK’.

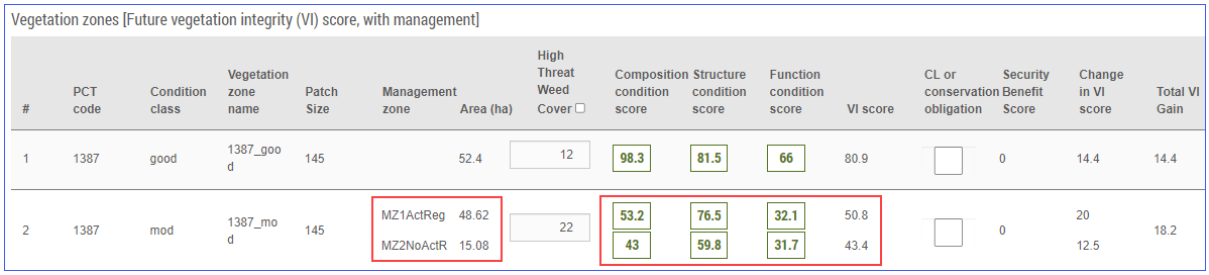


3. The sum of the areas of all management zones in a vegetation zone must equal the ‘Area (ha)’ field value for the vegetation zone. If you add a second management zone, enter another name and the area, then correct the area entered for the first management zone so the sum of both management zones is equal to the area of the vegetation zone. Click ‘Add zone’, and then ‘OK’.





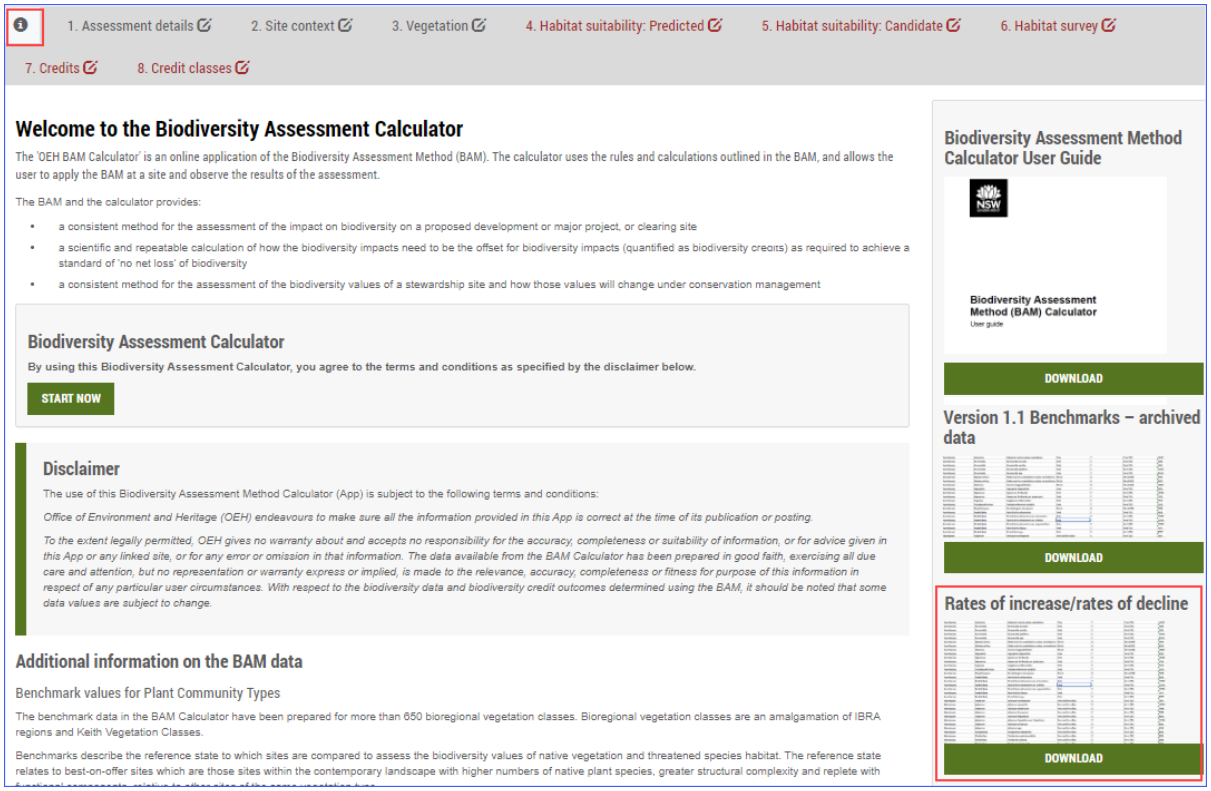
4. The management zones are displayed in the 'Vegetation zones (Future vegetation integrity (VI) score, with management)' section. The composition, structure and function scores can then be modified based on the management differences, for example, with and without active restoration.



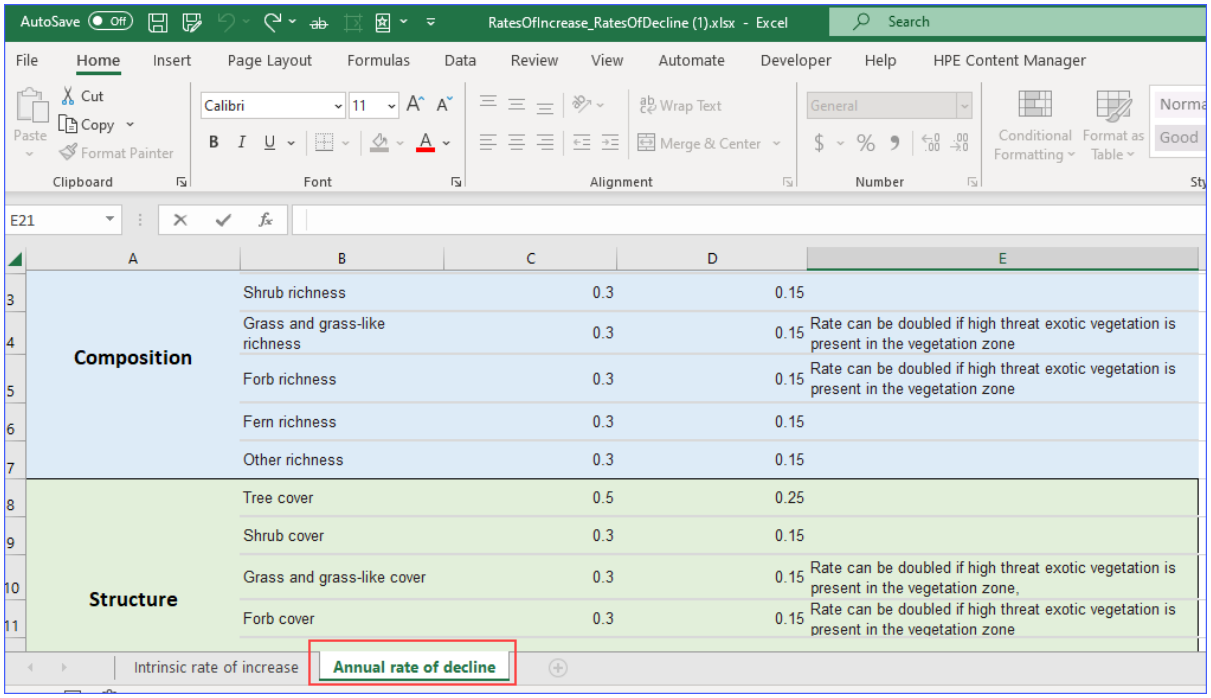
7.3.5 Calculate the future vegetation integrity score, without management

In the 'Vegetation zones (Future vegetation integrity score, without management)' section, 'Composition condition score', 'Structure condition score', 'Function condition score' and 'VI score' will populate automatically. The calculation of these values is dependent on the annual rates of decline for the VI attributes, the presence of HTW, and the risk category of the land.

Refer to the *Biodiversity Assessment Method Operational Manual – Stage 3*, Subsection 2.2.1 for more information on averted loss, and the homepage of the BAM-C for the intrinsic rates of increase and annual rate of decline (see Appendix B).

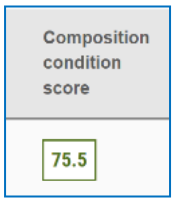


1. In some instances, the composition score can be modified when HTW are present. For more information, refer to the 'Annual rate of decline' tab within the *Rates of increase/rates of decline* document on the homepage of the BAM-C.



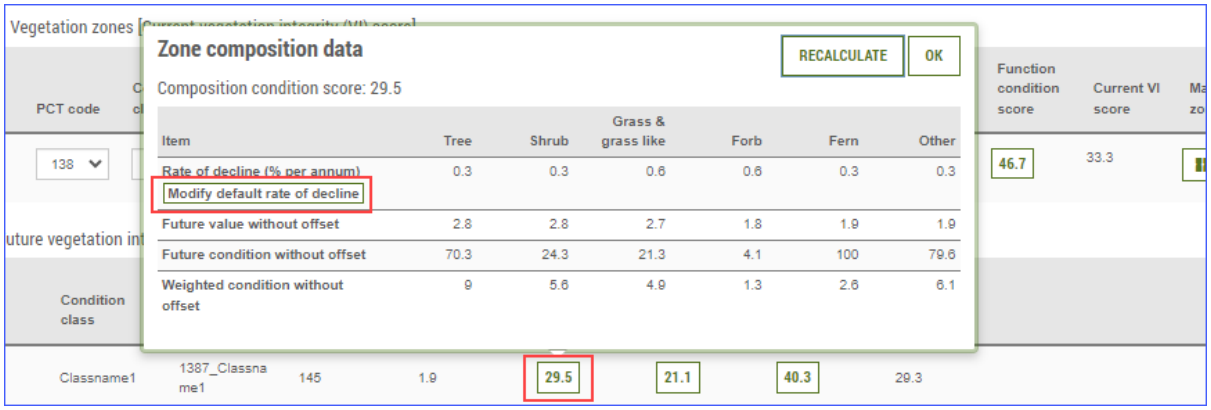
	A	B	C	D	E
3	Composition	Shrub richness	0.3	0.15	
4		Grass and grass-like richness	0.3	0.15	Rate can be doubled if high threat exotic vegetation is present in the vegetation zone
5		Forb richness	0.3	0.15	Rate can be doubled if high threat exotic vegetation is present in the vegetation zone
6		Fern richness	0.3	0.15	
7		Other richness	0.3	0.15	
8	Structure	Tree cover	0.5	0.25	
9		Shrub cover	0.3	0.15	
10		Grass and grass-like cover	0.3	0.15	Rate can be doubled if high threat exotic vegetation is present in the vegetation zone,
11		Forb cover	0.3	0.15	Rate can be doubled if high threat exotic vegetation is present in the vegetation zone

2. Select the 'Composition condition score' to modify the default composition condition rate of decline.



3. To modify the default rate of decline, click ‘Modify default rate of decline’. Data input fields under the default rate of decline row will be displayed.

   Click ‘Unlock’, enter the required modified rate of decline, and then click ‘Update’ to set the new rate of decline.



Tip

- You can vary the annual rate of decline for an attribute in circumstances defined in the *Intrinsic rates of increase/annual rate of decline* table provided in the BAM-C ‘Information’ tab. Refer to the BAM 2020, Section 11.4 for more information.

4. Click ‘Recalculate’ to update the calculations or ‘OK’ to update and close the pop-up.

Tip

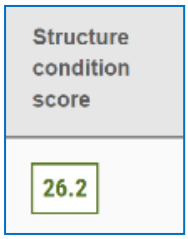
The following calculations are shown in this pop-up:

- Rate of decline: the annual rate of decline for the growth form group. See BAM 2020, Chapter 11.
- The BAM-C calculates and displays the predicted future condition (composition/structure/function) value for the growth form group. This calculation reapplies the logistic growth curve (Weibull curve) and the dynamic weighting approach to the attribute value without management to determine the future predicted condition score for composition, structure and function.

- See BAM 2020, Appendix H, Equations 28–30. These equations are used to calculate the future VI score without management.

5. In some instances, the structure score may be modified when HTW are present. For more information, refer to the '*Annual rate of decline*' tab within the *Rates of increase/rates of decline* document on the homepage of the BAM-C.

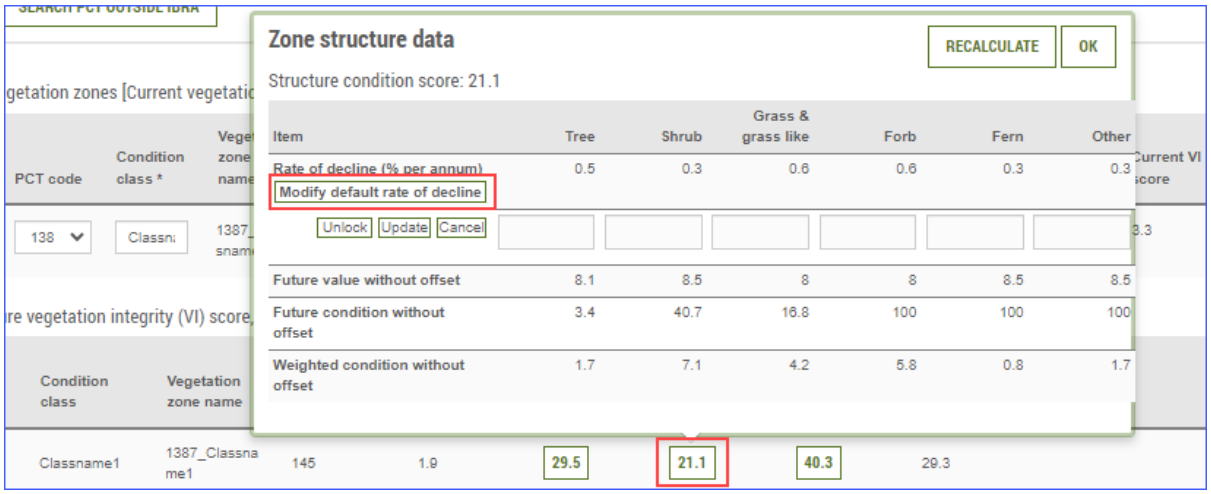
   To modify the default structure condition rate of decline, select the 'Structure condition score'.



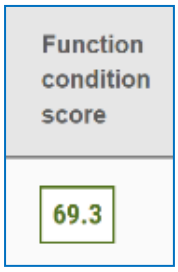
6. Click 'Modify default rate of decline'.

   Data input fields under the default 'Rate of decline' row will be displayed.

   Click 'Unlock', enter the modified rate of decline, and then click 'Update' to confirm the new rate of decline.

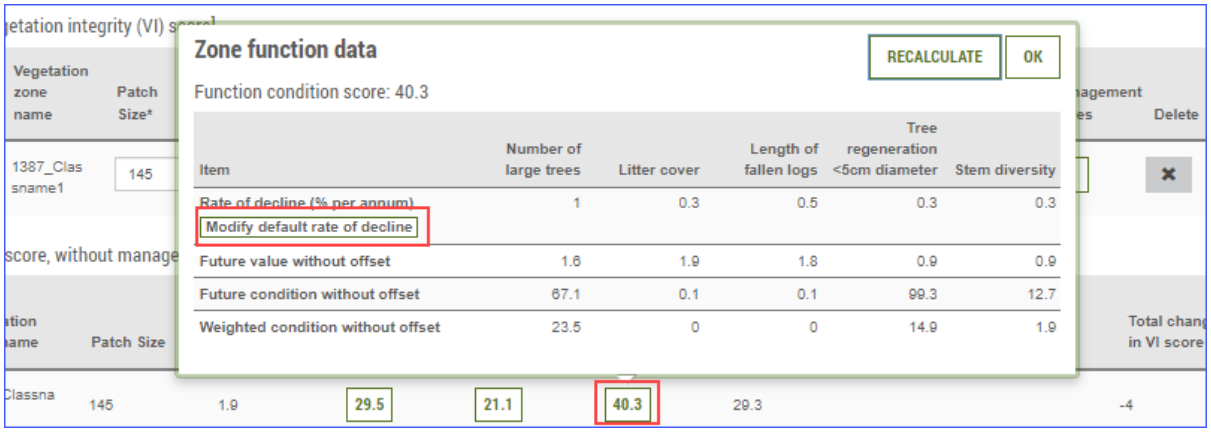


7. Click 'Recalculate' to update the calculations, or 'OK' to update and close the pop-up.
8. To modify the default rate of decline for function condition select 'Function condition score'.



9. Click ‘Modify default rate of decline’. Data input fields under the default rate of decline row will be displayed.

   Click ‘Unlock’, enter the required modified rate of decline, and click ‘Update’ to confirm the new rate of decline.



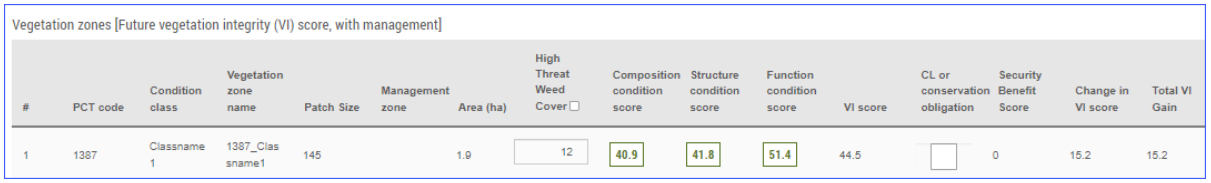
10. Click ‘Recalculate’ to update the calculations, or ‘OK’ to update and close the pop-up.
11. After completing the composition, structure and function calculations, the future VI score after 20 years without management is calculated and displayed in the ‘VI score’ field. The changes in VI between current and future without management scores (also known as averted loss) will be displayed in the ‘Total change in VI score’ column.

7.3.6 Calculate the future vegetation integrity score, with management

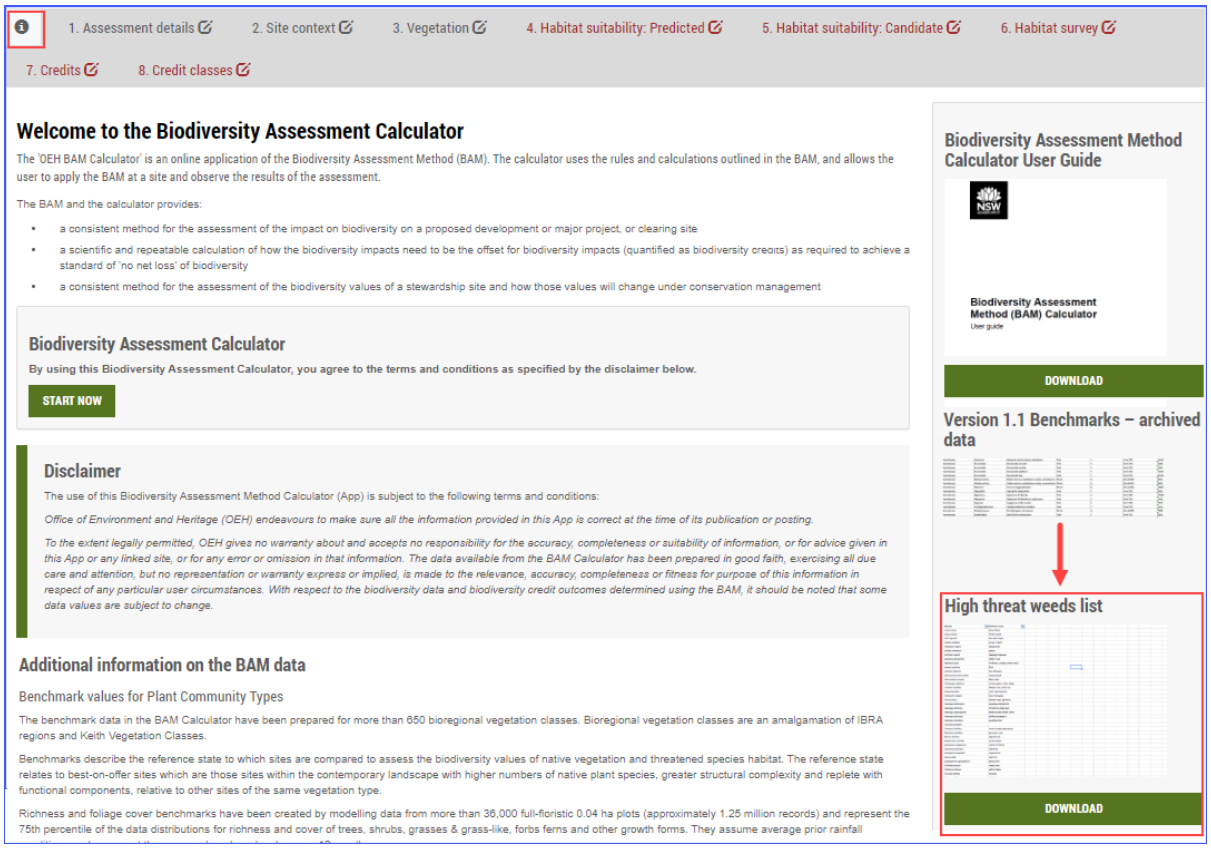
In the ‘Vegetation zones (Future vegetation integrity score, with management’) section, the ‘composition condition score’, ‘structure condition score’ and ‘function condition score’ will be calculated automatically and displayed. These can be modified, where appropriate, if active restoration is being undertaken.

The ‘Security Benefit Score’ and ‘VI score’ will also be calculated and displayed but cannot be modified.

The ‘High Threat Weed Cover’ and ‘CL or conservation obligation’ fields are editable.



The current list of HTW is published on the homepage of the BAM-C as a BioNet Power Query export from the BioNet *Species Names* database.



Each HTW is categorised as either ‘manageable’ or ‘not manageable’, and this categorisation is displayed in the BioNet Power Query.

F	G	H	I
Current Scientific Name Code	Current Scientific Name	Current Vernacular Name	High Threat Weed
11940	Acacia nilotica	Gum Arabic Tree	High Threat Weed - not manageable
1014	Acer negundo	Box Elder	High Threat Weed - manageable
5263	Acetosa sagittata	Rambling Dock	High Threat Weed - not manageable
5263	Acetosa sagittata	Rambling Dock	High Threat Weed - not manageable
5265	Acetosella vulgaris	Sheep Sorrel	High Threat Weed - not

1. Where ‘manageable’ HTW occur in the vegetation zone and they will be actively managed, as detailed in the management plan, plus there is evidence to support their successful control, the HTW score may be modified to display only the percentage of ‘non-manageable’ HTW. Refer to BAM 2020, Appendix G.7.6, and Subsection 2.2.2 of the *Biodiversity Assessment Method Operational Manual – Stage 3* for more information:
    a. Tick the ‘High Threat Weed Cover’ checkbox, which unlocks the field.

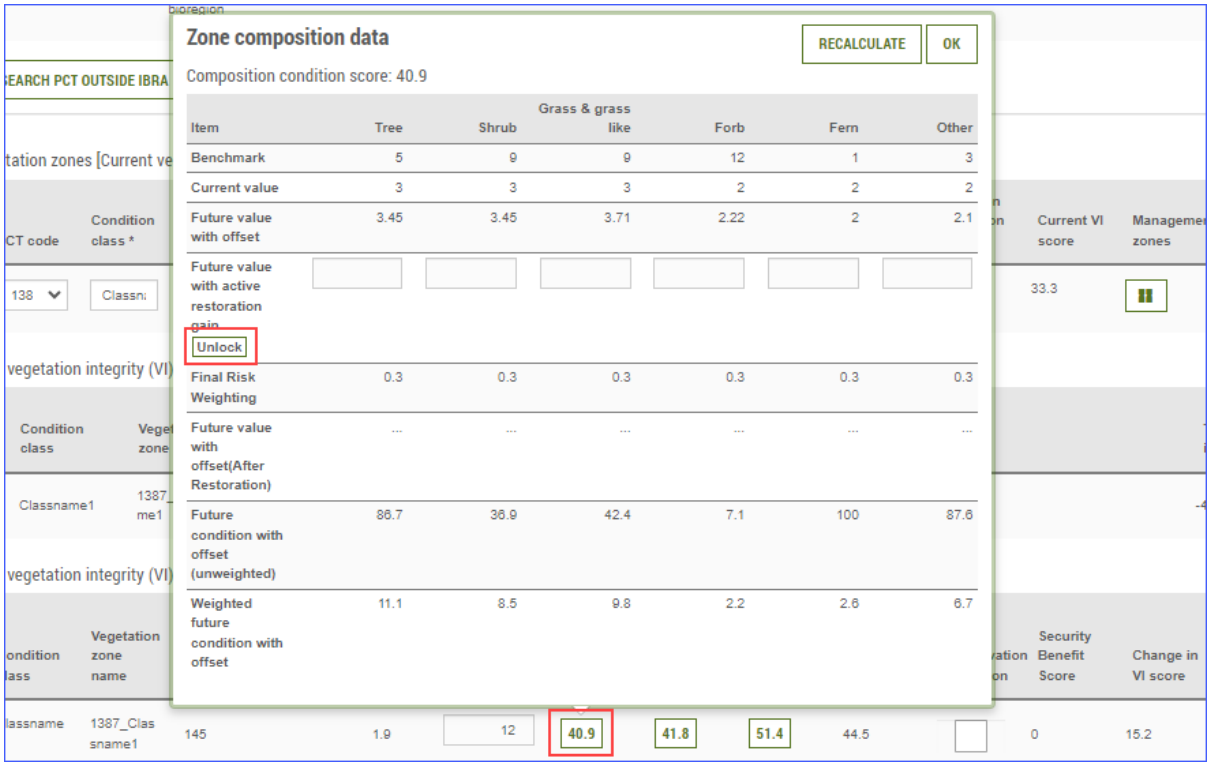
    b. Edit the HTW value to display the percentage cover of ‘non-manageable’ HTW plus any ‘manageable’ HTW not being actively managed.

    If the condition score fields already contain data, these will automatically update based on the revised risk weighting for HTW as outlined in BAM 2020, Equations 35 and 36.

    Note, the values contributing to the composition and structure scores should be unlocked and modified to reflect the predicted outcomes of the active management being undertaken. For instructions, refer to the steps below.

2. Where active restoration is being undertaken, it may be appropriate to modify the ‘Future value with active restoration gain’ for one or more growth form groups in the zone composition data fields. Refer to BAM 2020, Subsection 11.3.2 for more information.

    To alter the composition score, select the ‘Composition condition score’ field and click ‘Unlock’ under ‘Future value with active restoration gain’. Data input fields for capturing future value with active restoration gain will become editable. Enter the proposed future value and click ‘Lock’ to update the proposed value.



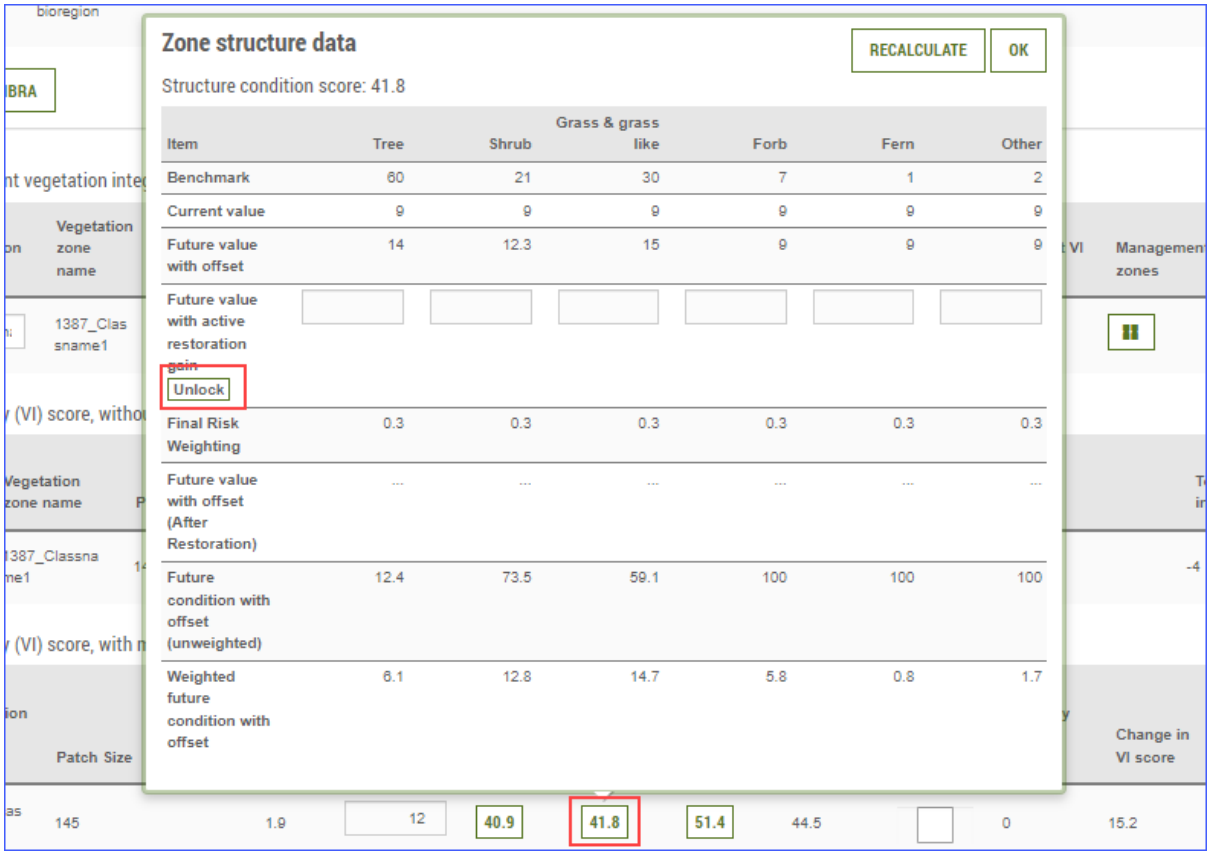
3. Click ‘Recalculate’ to update the calculations, or ‘OK to update and close the pop-up.

Tip

- The BAM-C calculates and displays the current mean of observed values of the relevant growth form group over all plots (from the ‘Current vegetation integrity score’ pop-up). Equation 25 or Equation 26 is then used to calculate the future VI score with management.
- See BAM 2020, Appendix H: Determining the vegetation integrity score.

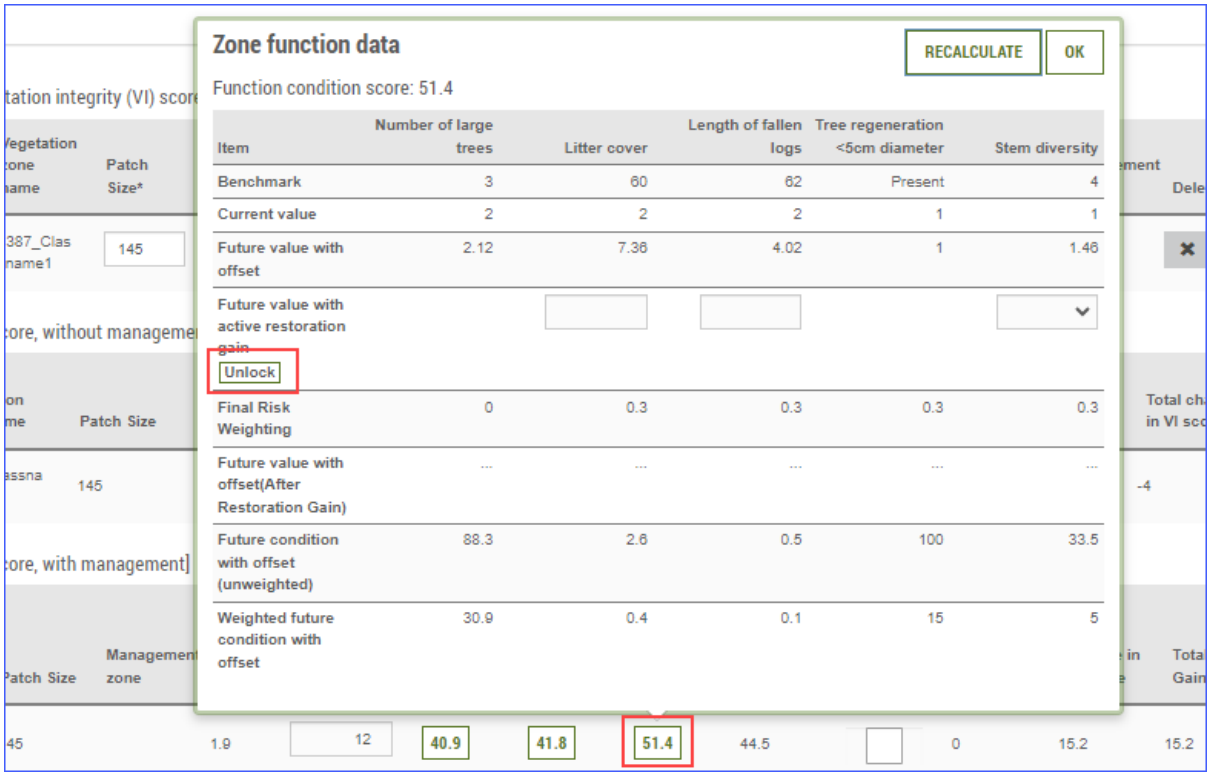
4. Where active restoration is being undertaken, it may be appropriate to modify the ‘Future value with active restoration gain’ for one or more growth form groups in the zone structure data fields. Refer to the BAM 2020, Subsection 11.3.2 for more information.

   To alter the structure score, select the structure condition score and click ‘Unlock’ under ‘Future value with active restoration gain’. Data input fields for specifying future value with active restoration gain will be enabled. Enter the proposed future value and click ‘Lock’ to update the proposed value.

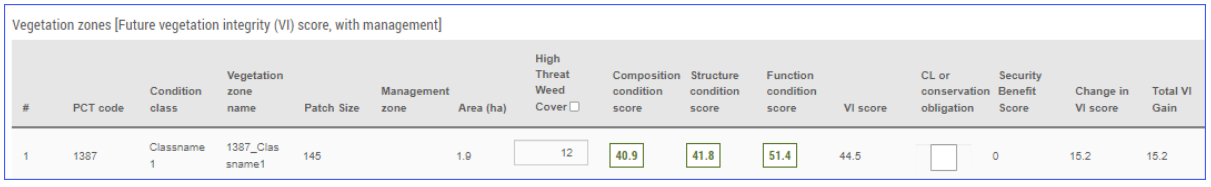


5. Click ‘Recalculate’ to update the calculations, or ‘OK’ to update and close the pop-up.
6. Where active restoration is being undertaken, it may be appropriate to modify the ‘Future value with active restoration gain’ for one or more function attributes. Refer to the BAM 2020, Subsection 11.3.2 for more information.

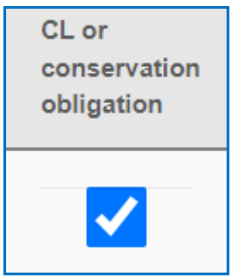
   To alter the function score, select the function condition score and click ‘Unlock’ under ‘Future value with active restoration gain’. Data input fields for specifying future value with active restoration gain will be enabled. Enter the proposed future value and click ‘Lock’ to update the proposed value.



7. Click ‘Recalculate’ to update the calculations, or ‘OK’ to update and close the pop-up.
8. After completing the composition, structure and function calculations, the future VI score (with management), security benefit score, change in VI scores between current and future with management, and total gain will be displayed.
9. The ‘Security Benefit Score’ will be applied if the vegetation zone meets the criteria set out in the BAM, Section 11.5, that it:
   - has a current VI score of ≥60
   - has a current HTW cover of ≤10%
   - is not already secured under an existing conservation obligation
   - is not Crown land.



10. Tick the ‘CL [Crown land] or conservation obligation’ checkbox if appropriate. Refer to the BAM 2020, Section 11.9, to identify the types of actions or measures that are applicable.



Tip

- Definitions relating to existing conservation obligations and management actions:
  - ‘Existing conservation obligation’ does not include management actions that are undertaken voluntarily and are not secured by any legal obligation.
  - ‘Publicly owned land’ means land owned by, or under the control of, the state, the Commonwealth or a public authority under a long-term lease, licence, or other arrangement. It does not include land that is under a perpetual lease, or land that is being managed by a person or a body (other than the state, the Commonwealth, or a public authority).
- See BAM 2020, Section 11.9.

11. When all required information has been entered, click ‘Next’ to move to Tab 4.

Tip

- The security benefit score is an addition to the overall gain achieved at a site and is applied to zones in high to very high condition.
- Save your assessment regularly to ensure data is not lost.

7.4 Habitat suitability: Predicted (Tab 4)

Ecosystem credit species are threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features, or that have a low probability of detection using targeted surveys. The TBDC identifies the threatened species assessed for ecosystem credits and the BAM-C automatically populates the list of ecosystem credit species.

The confirmation of ecosystem credit species is not required for stewardship assessments as their presence/absence has no impact on the number of credits generated.

No action is required for Tab 4.

Tip

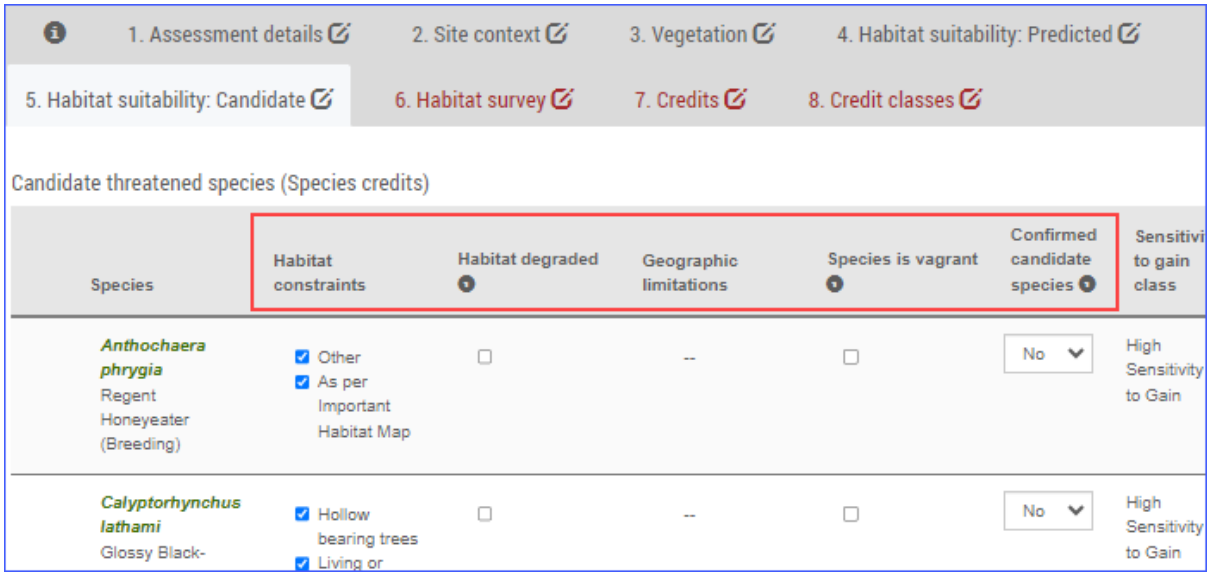
- The number and type of ecosystem credit (predicted) species have no impact on the number of credits generated for a stewardship assessment, so there is no need to assess them.
- Remember to click 'Next' to progress to Tab 5 so the data from previous tabs flows through to the subsequent tabs and calculations.

7.5 Habitat suitability: Candidate (Tab 5)

The 'Habitat suitability: Candidate' tab is used to confirm the threatened species credit species that may occur on or use the site. Species credit species are those where the likelihood of occurrence of a species or elements of suitable habitat for that species cannot be confidently predicted by vegetation surrogates and landscape features and can be reliably detected by survey. The candidate species list is automatically generated based on criteria in BAM 2020 (Subsection 5.2.1, Step 1).

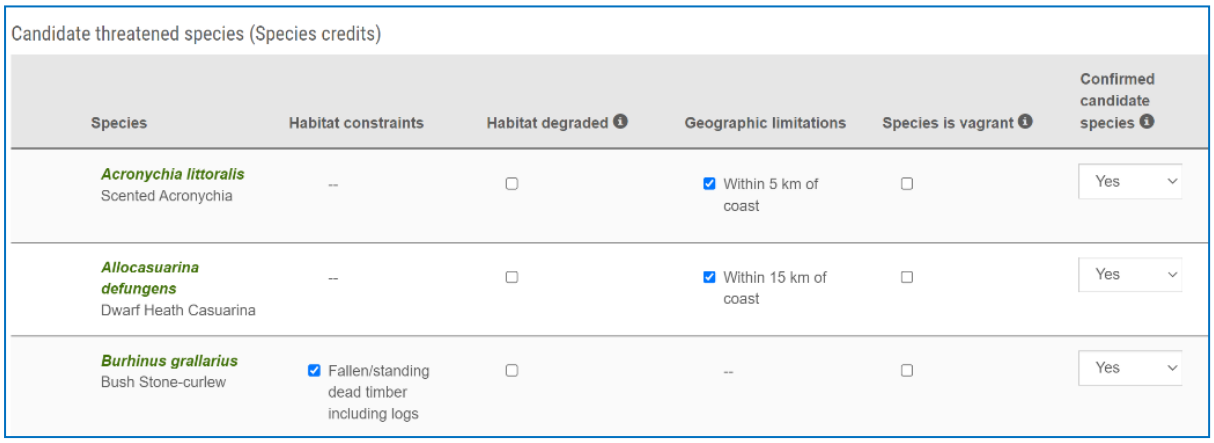
Unlike development or clearing cases, assessment of candidate species on stewardship sites is optional. Refer to the BAM 2020, Subsection 5.2.3(1) for more information. Assessors may choose not to assess any candidate species, or only some of the species.

Should you wish to include the assessment of candidate species, the steps are displayed below. If you want to continue the assessment without assessing any candidate species, you still need to click 'Next' to ensure the data and calculations from previous tabs flow through to the 'Credits' and 'Credit classes' tabs.



1. As ‘Next’ was clicked after completion of Tab 4, the ‘Habitat suitability: Candidate’ tab will be open. When reopening an existing assessment, click on Tab 5, to open it.

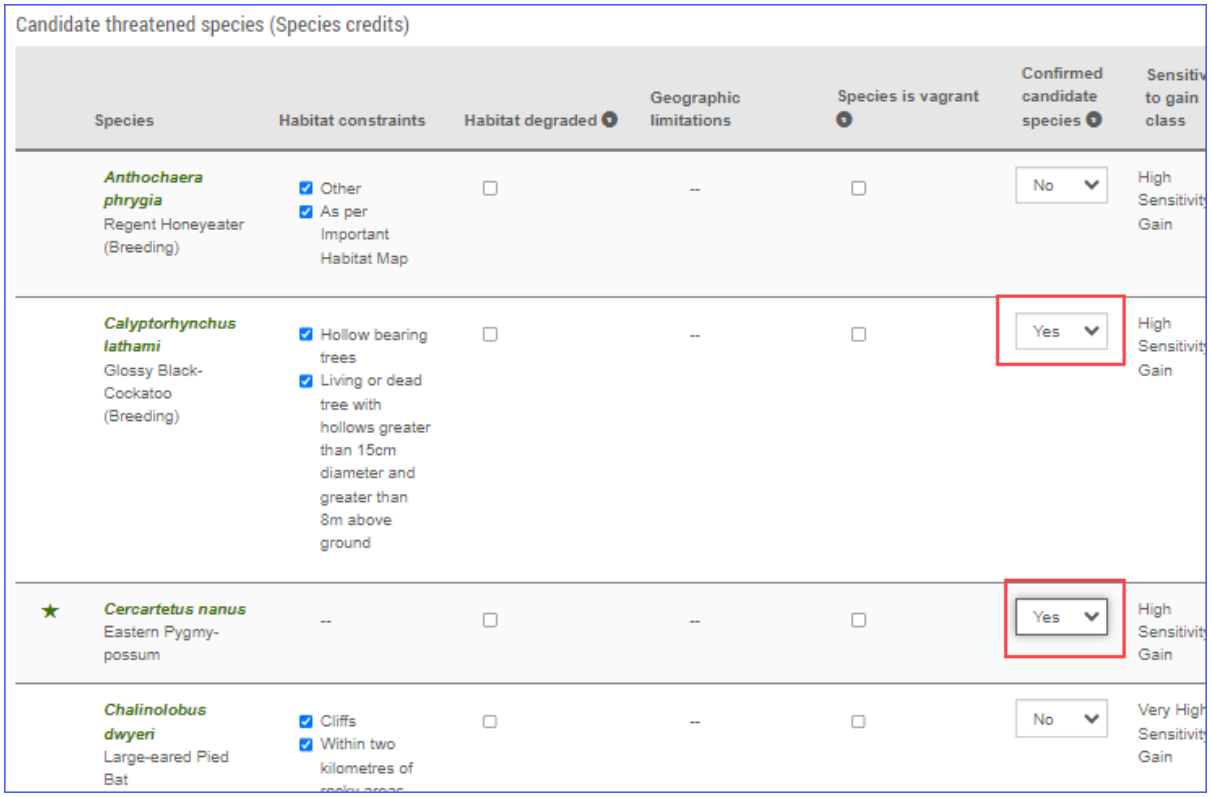
2. For any candidate species included in the assessment, review the ‘Habitat constraints’, ‘Habitat degraded’, ‘Geographic limitations’ and ‘Species is vagrant’ checkboxes to help determine species unlikely to be at the stewardship site. Refer to BAM 2020, Subsections 5.2.1–5.2.3 for more information.



Tip

- Further details on habitat constraints (including the ‘other’ category) and geographic limitations can be found on the *BioNet Threatened Biodiversity Profiles* webpage (see Appendix B).

3. The ‘Confirmed candidate species’ default setting for stewardship assessments is ‘No’. For any candidate species that will be assessed for presence at the site, change the ‘Confirmed candidate species’ field to ‘Yes’.



Note: An asterisk beside a species name indicates the species has been added to the assessment because of a change to a previous tab, for example, a change to PCT(s), % native vegetation cover, or patch size.

Tip

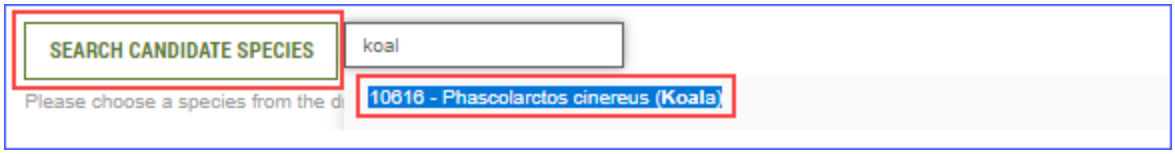
- For stewardship assessments, the default setting for the 'Confirmed candidate species' is 'No'.
- Confirmed candidate species are assessed for species credits.

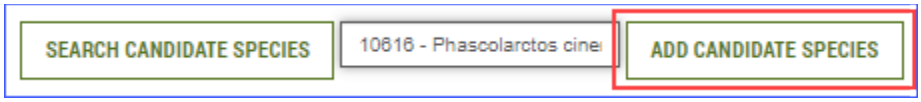
4. The 'Sensitivity to gain class', 'BC Act listing status', and 'EPBC Act listing status' will populate automatically.

Sensitivity to gain class	BC Act listing status	EPBC Act listing status.
High Sensitivity to Gain	Vulnerable	Not Listed
High Sensitivity to Gain	Vulnerable	Not Listed

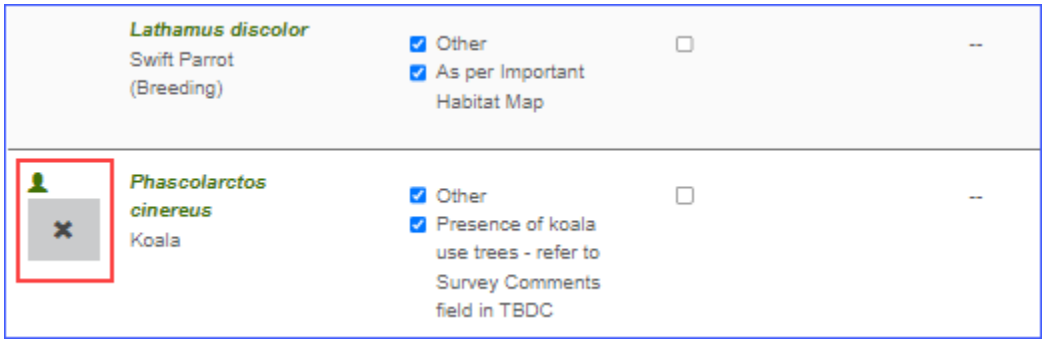
5. To include a species credit species not in the BAM-C list, click 'Search candidate species' at the bottom of the tab page and enter the species' name or profile ID.

   Any matching species will be presented in a list. Select the species' name and click 'Add candidate species'.





When a species is added, an 'X' will appear to the left of the species' name, indicating this species has been added by the assessor. This species can be removed by clicking on the 'X'.



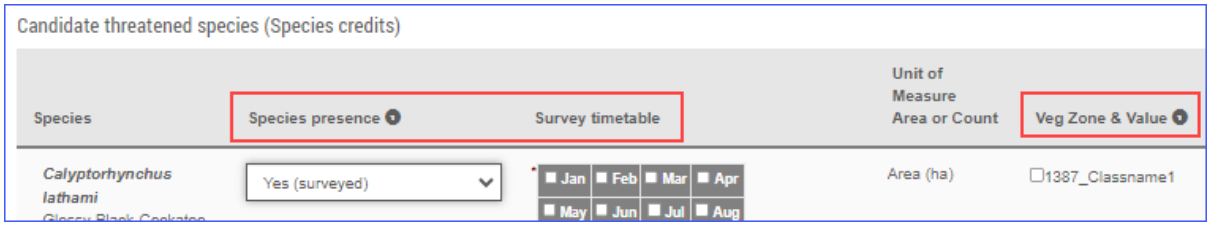
6. When all required information has been entered, click 'Next' to move to Tab 6.

7.6 Habitat survey (Tab 6)

The 'Habitat survey' tab records whether a candidate credit species is present at the stewardship site (BAM 2020, Subsection 5.2.4 to Section 5.3) and whether its presence/absence was confirmed by survey or expert report.

Unlike development or clearing cases, no risk weighting is applied to stewardship assessments, so these fields are not displayed.

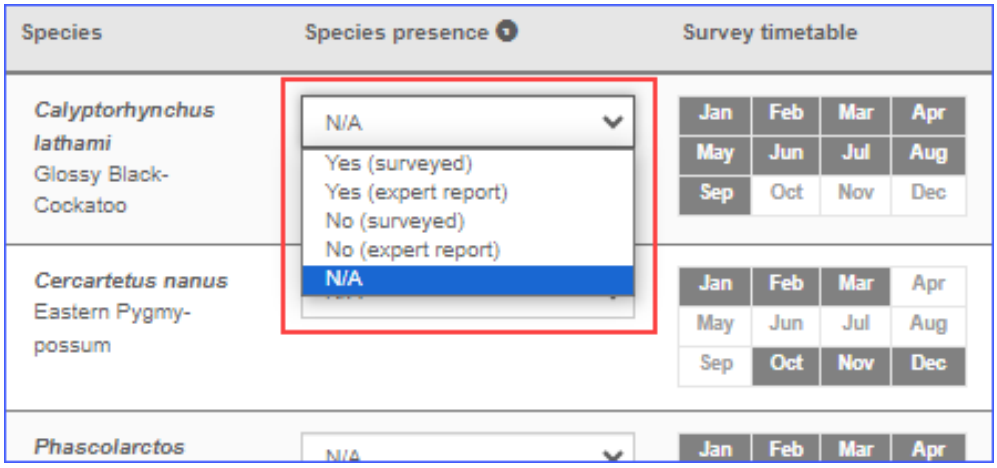
If you are assessing any candidate species, the steps to complete Tab 6 are below. If you are not assessing any candidate species, you still need to click 'Next' to ensure the data and calculations from previous tabs flow through to the 'Credits' and 'Credit classes' tabs.



1. As 'Next' was clicked after completion of Tab 5, the 'Habitat survey' tab will be open. When reopening an existing assessment, click on Tab 6 to open it.

2. The list of candidate species from Tab 5 'Habitat suitability: Candidate' that were confirmed 'Yes' as potentially being present are listed in Tab 6.

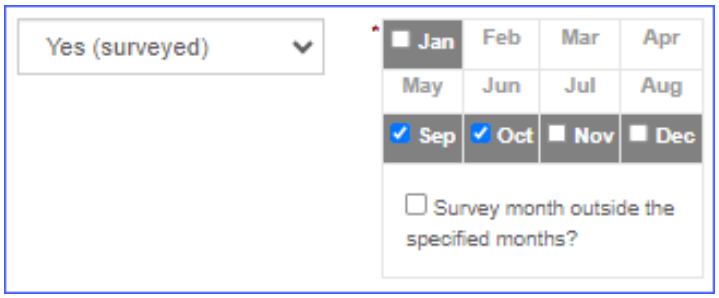
3. The ‘Species presence’ for stewardship sites automatically defaults to ‘N/A’. The drop-down can be changed to reflect the results of survey(s) or advice from an expert report. The options available in the drop-down field are ‘Yes (surveyed)’, ‘Yes (expert report)’, ‘No (surveyed)’ or ‘No (expert report)’.
4. For a small number of species, the habitat constraint information in the TBDC refers to an important habitat map. If one of these species is being assessed, and the assessment area is wholly or partially within a mapped layer identified on an important habitat map, the species can be considered present (‘Yes (assumed present)’). If the assessment area does not overlap any mapped layer, the species credit species is considered absent (‘No (surveyed)’).



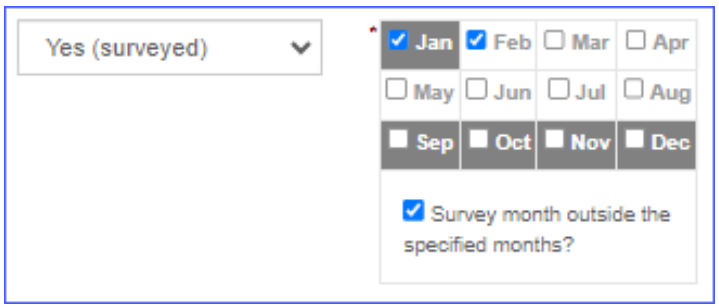
Tip

- Where ‘Yes (surveyed)’ or ‘Yes (expert report)’ has been selected, the inputs of the ‘Unit of Measure’ and ‘Veg Zone & Value’ columns will be activated.

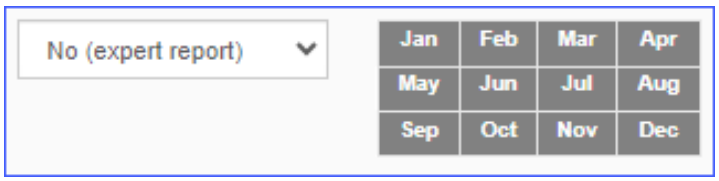
5. If either ‘Yes (surveyed)’ or ‘No (surveyed)’ is selected, the checkboxes in the ‘Survey timetable’ field are activated. Use these checkboxes to indicate when the survey(s) were undertaken. The survey method must comply with any threatened species survey guides or advice the department has published or provided within the TBDC. In the absence of any guide or advice, use a best-practice method.



6. Only survey during a month specified in the BAM-C unless there is a clear justification to survey outside the specified month(s). If the survey was conducted during a month outside the specified month(s), select 'Survey month outside the specified months', then use the checkboxes to indicate the month(s) the survey was undertaken.



7. If either 'Yes (expert report)' or 'No (expert report)' is selected in the 'Species presence' field, there is no option to input a survey timetable.

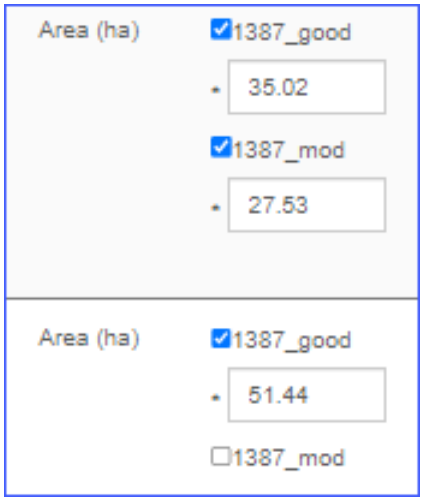


8. The UoM for each species is displayed but cannot be edited.
9. For each species identified as present, tick the checkboxes under 'Veg Zone & Value' for all vegetation zones the species has been identified as being present within.

Tip

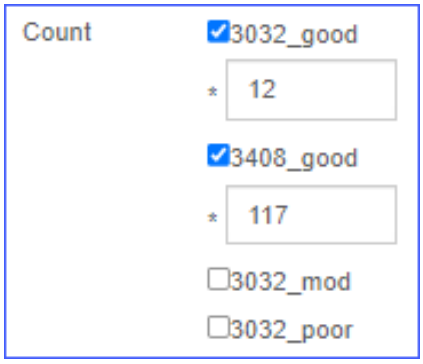
- A species can be identified as present in multiple vegetation zones.

10. Enter the value that quantifies the species' distribution, noting that the value entered will differ depending on the UoM:
    a. Where the UoM is 'Area (ha)' enter the area of the species polygon. The development of the polygon must comply with any threatened species survey guides or advice that the department has published or provided within the TBDC. In the absence of any guide or advice, use best practice.



If the assessment area is within a mapped layer identified on an important habitat map, the species polygon can include up to the entire area of the zone that is mapped on the important habitat map.

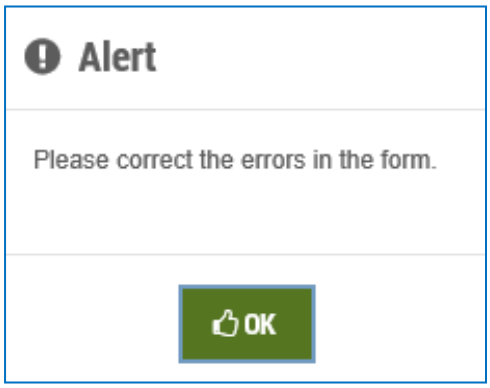
b. Where the UoM is 'Count', enter the number of individuals within the species polygon (an individual is defined in the BAM 2020 as 'a single, mature organism that is a threatened species').



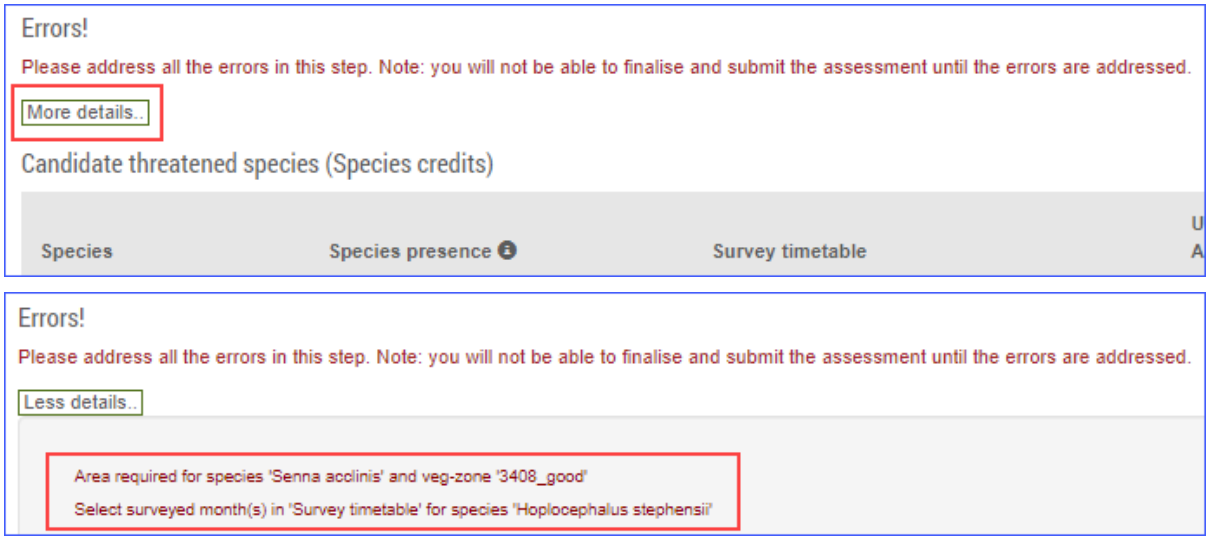
Tip

- The minimum area that can be entered in BAM-C is 0.01 ha. If the area is between 0.005 ha and 0.009 ha the BAM-C will round the value up to 0.01 ha.
- Below 0.005 ha, values will be rounded to 0 ha and the assessment will not save. In this scenario either combine the area with another area, or enter the area as 0.01 ha.
- The maximum area that can be entered in BAM-C is the area of the vegetation zone from Tab 3.

11. When you click ‘Next, an alert will display if any required fields have not been completed.



12. Details of any errors will be listed in a message at the top of the page. Click the ‘More details’ box for further details.



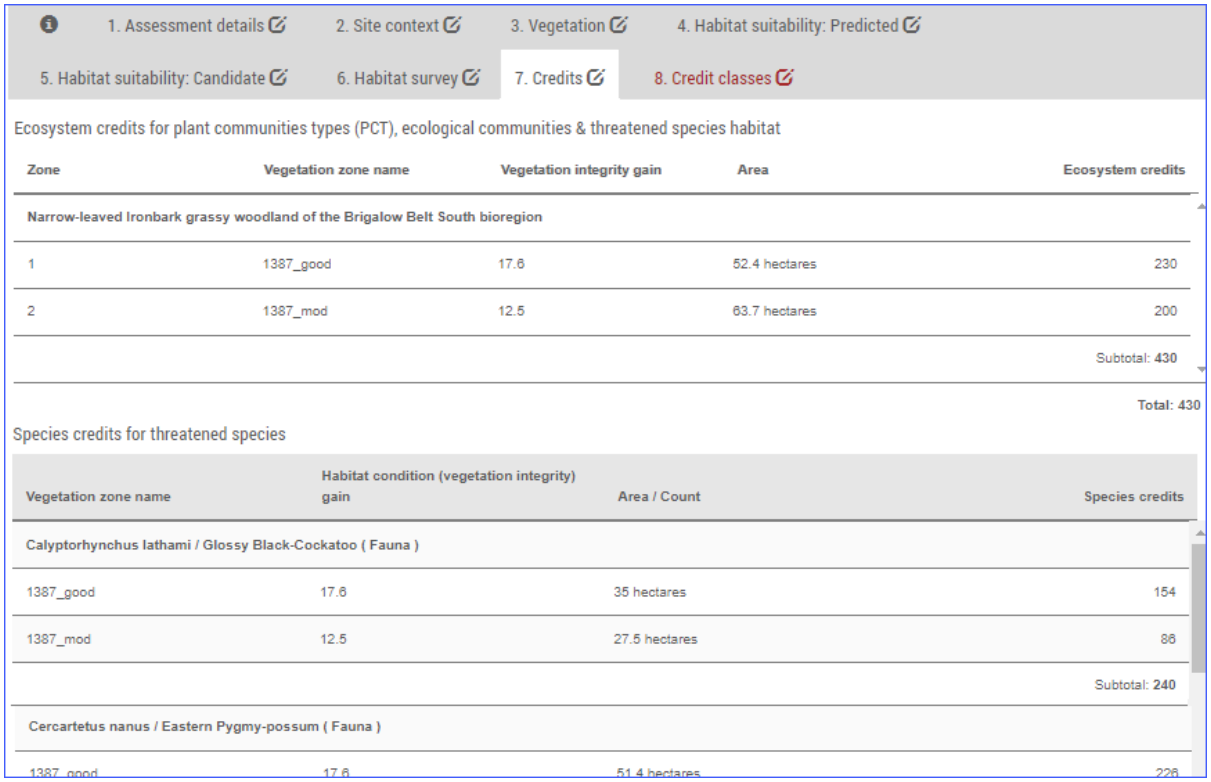
13. When all required information has been entered, click ‘Next’ to move to Tab 7.

7.7 Credits (Tab 7)

The BAM 2020 uses biodiversity credits to measure the predicted improvement in biodiversity values at a stewardship site.

The ‘Credits’ tab summarises the results of calculations of biodiversity credits. No user action is required for Tab 7.

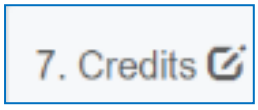
Further details on the calculations performed are in Subsections 7.7.7 and 7.7.8 below.



Tip

- Despite the BAM-C displaying biodiversity credit output for any EPBC Act only listed entity, biodiversity credits cannot be created or traded under the NSW scheme.
- Contact the Australian Government Department of Climate Change, Energy, the Environment and Water as the relevant agency for meeting any requirements of an EPBC Act approval.
- 'EPBC Act only' listed entity means a 'threatened species' or 'threatened ecological community' that is listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), but not listed under the *Biodiversity Conservation Act 2016* (NSW).

1. As 'Next' was clicked after completion of Tab 6 the 'Credits' tab will be open. When reopening an existing assessment, click on Tab 7 to open it.



7.7.7 Ecosystem credits for PCTs and TECs

The first section of Tab 7 displays the ecosystem credits for the PCT and TECs.

The vegetation condition is measured using the VI score for each vegetation zone. The BAM-C uses the VI score, the area of the vegetation zone, and a constant, to calculate

the number of ecosystem credits for each vegetation zone added at Tab 3. Refer to Equation 4 in the BAM 2020 for more information.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity gain	Area	Ecosystem credits
Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion				
3	201_mod	7.6	1.8 hectares	3
				Subtotal: 3
Narrow-leaved Ironbark grassy woodland of the Brigalow Belt South bioregion				
1	1387_good	17.6	52.4 hectares	230
2	1387_mod	12.5	63.7 hectares	200
				Subtotal: **430**
				Total: 433

Tip

- Use the scroll bar to see all ecosystem credits.
- See BAM 2020, Sections 5.1 and 5.2 for further information on ecosystem credit species.
- See BAM 2020, Section 11.6 for further information on the calculation of ecosystem credits at a stewardship site.

7.7.8 Species credits for threatened species

The second section of Tab 7 displays the species credits for threatened species that cannot be predicted to occur at a site based on the vegetation (PCT), and have been confirmed present at the site (Tab 6 'Species presence' = 'Yes').

For species with a UoM of 'Area', the BAM-C uses the VI gain, the area of the vegetation zone, and a constant, to calculate the number of species credits for each vegetation zone (PCT) added at Tab 3 that is associated with the species. Refer to Equation 5 in the BAM 2020 for more information.

For species with a UoM of 'Count', the BAM-C uses the number of individuals, the estimated intrinsic rate of increase for the species, and the management timeframe (20 years) to calculate the number of species credits. Refer to Equation 6 in the BAM 2020 for more information.

Species credits for threatened species

Vegetation zone name	Habitat condition (vegetation integrity) gain	Area / Count	Species credits
Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)			
1387_good	17.6	35 hectares	154
1387_mod	12.5	27.5 hectares	86
			Subtotal: **240**
Cercartetus nanus / Eastern Pygmy-possum (Fauna)			
201_mod	7.6	1.2 hectares	2
1387_good	17.6	51.4 hectares	226
			Subtotal: **228**

Tip

- Use the scroll bar to see all species credits.
- In some circumstances, the TBDC may identify a threatened species that requires assessment for ecosystem credits and species credits (referred to as dual credit species). For dual credit species, part of the habitat is assessed as a species credit (for example, breeding habitat or land mapped on an important habitat map layer). The remaining habitat for the species is assessed as an ecosystem credit (for example, foraging habitat).
- Equations for the calculation of species credits differ depending on their UoM.
- See BAM 2020, Chapter 5 for further information on species credits.
- See BAM 2020, Section 11.7 for further information on the calculation of species credits at a stewardship site.

No user action is required for Tab 7 and there is no 'Next' button. Click on Tab 8 'Credit classes' to open it.

7.8 Credit classes (Tab 8)

The BAM uses OTGs to offset non-threatened vegetation (PCTs). OTGs are groups of PCTs with the same vegetation class and threat status. Under the like-for-like rules, offsets for impacts to non-threatened vegetation may be met with one or more OTGs that have the same vegetation class with the same or a higher threat status.

Under the like-for-like rules, threatened vegetation (TECs) and threatened species must be offset with the same TEC/species.

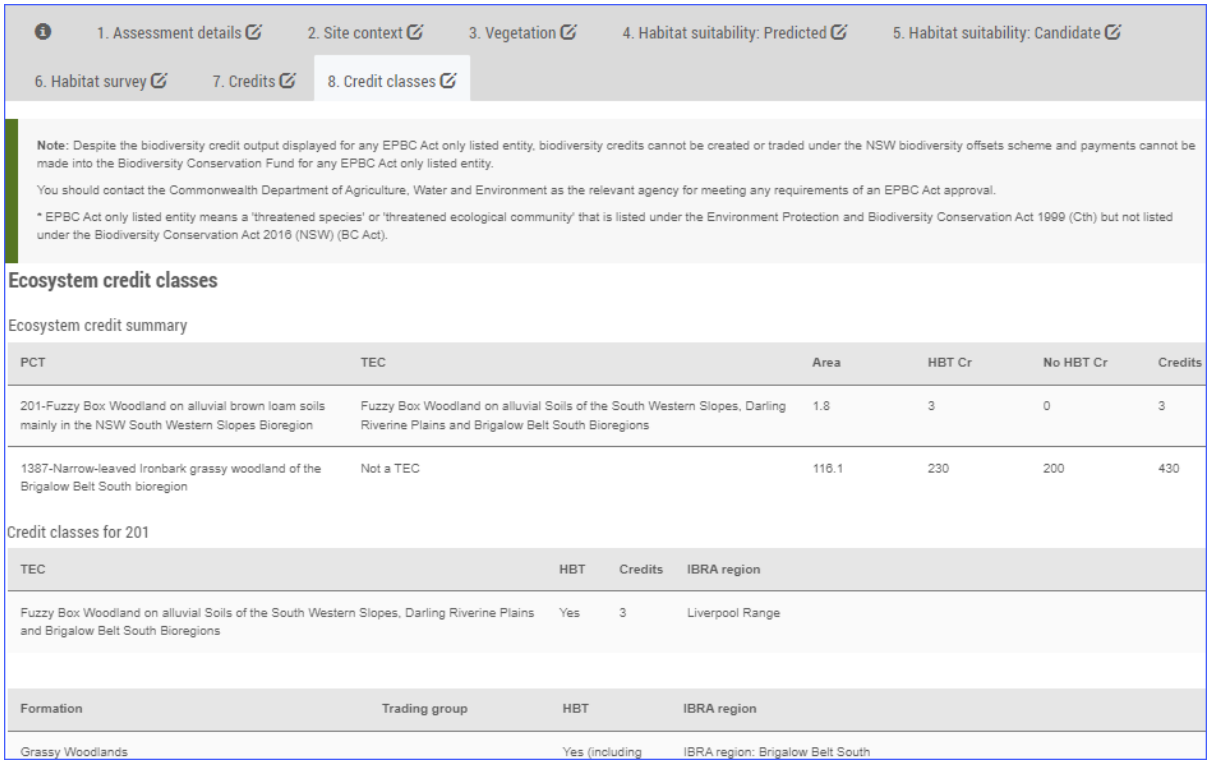
Vegetation containing HBT must be offset with vegetation containing HBT.

Variation rules may apply.

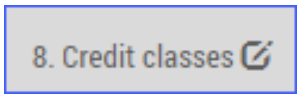
The 'Credit classes' tab summarises the ecosystem and species credits and their like-for-like options.

Further details on the information available in Tab 8 are in Subsections 7.8.9 and 7.8.10 below.

No user action is required in this tab.



1. Select the ‘Credit classes’ tab to view information on the ecosystem and species credit classes.



Tip

- See BAM 2020, Chapter 11 for information on calculating gain at a stewardship site.

7.8.9 Ecosystem credit classes

The first section of Tab 8 displays a summary of the ecosystem credit classes, whether there is an associated TEC or not, and their like-for-like options based on the PCTs and/or TECs added at Tab 3.

For non-threatened vegetation (‘Not a TEC’), the BAM-C displays the associated vegetation class and lists the PCTs within that class. The BAM-C also displays the associated OTGs and IBRA subregions available for making a like-for-like credit trade. Refer to the *Offset rules and ecosystem credits* guidance for more information (see Appendix B).

Ecosystem credit summary

PCT	TEC	Area	HBT Cr	No HBT Cr	Credits
201-Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	1.8	3	0	3
1387-Narrow-leaved Ironbark grassy woodland of the Brigalow Belt South bioregion	Not a TEC	116.1	230	200	430

Credit classes for 201

TEC	HBT	Credits	IBRA region
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Yes	3	Liverpool Range

Formation	Trading group	HBT	IBRA region
Grassy Woodlands		Yes (including artificial)	IBRA region: Brigalow Belt South

Credit classes for 1387

Class	Trading group	HBT	Credits	IBRA region
North-west Slopes Dry Sclerophyll Woodlands	North-west Slopes Dry Sclerophyll Woodlands - ≥ 50% - < 70% cleared group	Yes	230	Liverpool Range
North-west Slopes Dry Sclerophyll Woodlands	North-west Slopes Dry Sclerophyll Woodlands - ≥ 50% - < 70% cleared group	No	200	Liverpool Range

Formation	Trading group	HBT	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	North-west Slopes Dry Sclerophyll Woodlands - ≥ 50% - < 70% cleared group	Yes (including artificial)	IBRA region: Brigalow Belt South

7.8.10 Species credit classes

The second section of Tab 8 displays a summary of the species credit classes for all candidate species confirmed present at the site, and their like-for-like options.

Species credit summary

Species	Vegetation Zone/s names	Area / Count	Credits
Calyptorhynchus lathami / Glossy Black-Cockatoo	1387_good, 1387_mod	62.6	240
Cercartetus nanus / Eastern Pygmy-possum	1387_good, 201_mod	52.7	228

Calyptorhynchus lathami / Glossy Black-Cockatoo

Spp	IBRA region
Calyptorhynchus lathami / Glossy Black-Cockatoo	Any in NSW

Kingdom	Listing status	IBRA region
Fauna	Vulnerable	Liverpool Range

Cercartetus nanus / Eastern Pygmy-possum

Spp	IBRA region
Cercartetus nanus / Eastern Pygmy-possum	Any in NSW

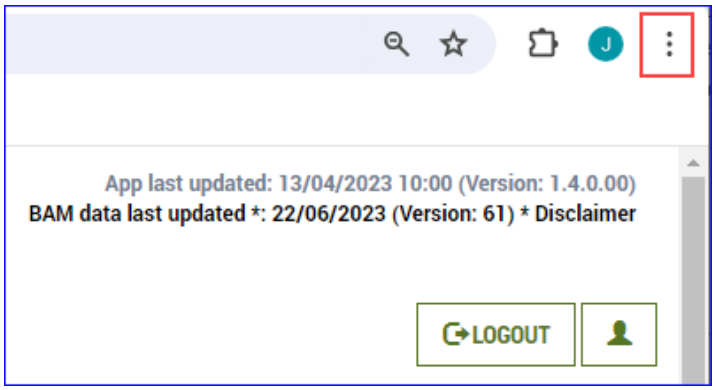
Kingdom	Listing status	IBRA region
Fauna	Vulnerable	Liverpool Range

Appendix A – Clearing the BAM-C cache

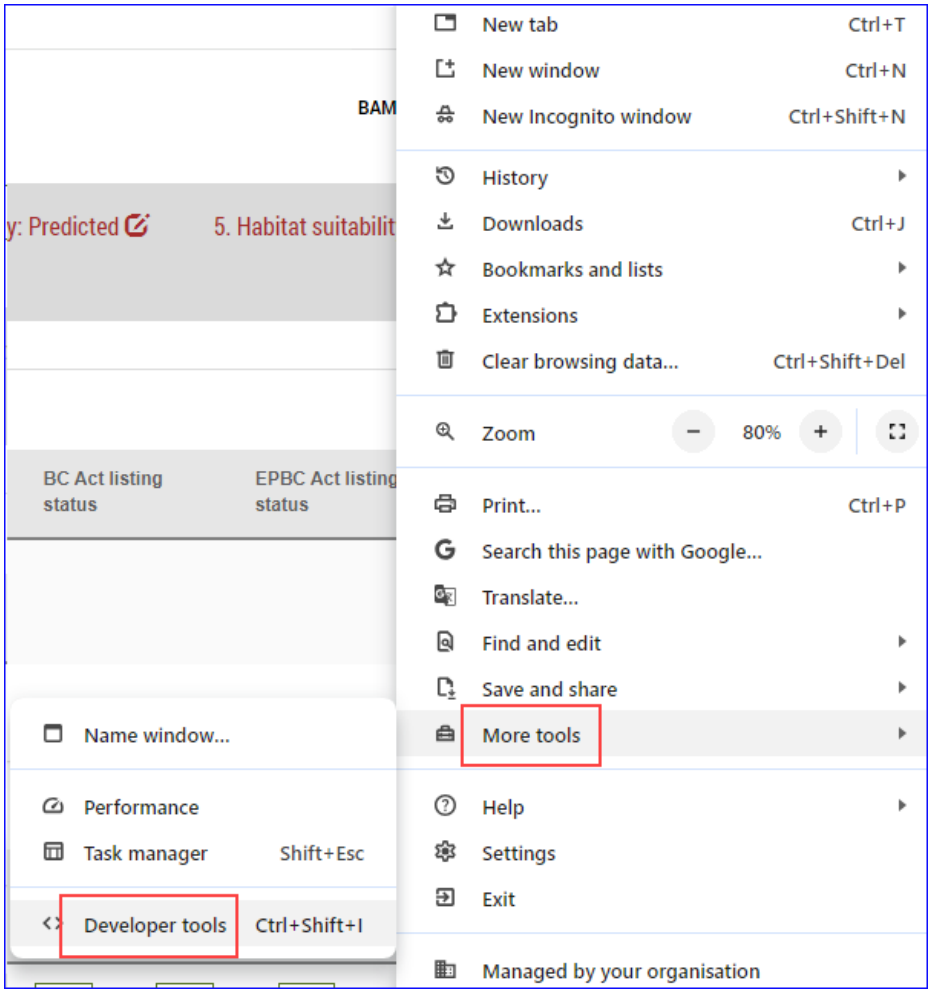
If you are having a problem selecting legacy PCTs (during a transitional period) in a case created before deployment of any revised NSW PCTs, and the transitional arrangements are still in place, clear your cache in the BAM-C.

To clear your cache when using Chrome or Microsoft Edge:

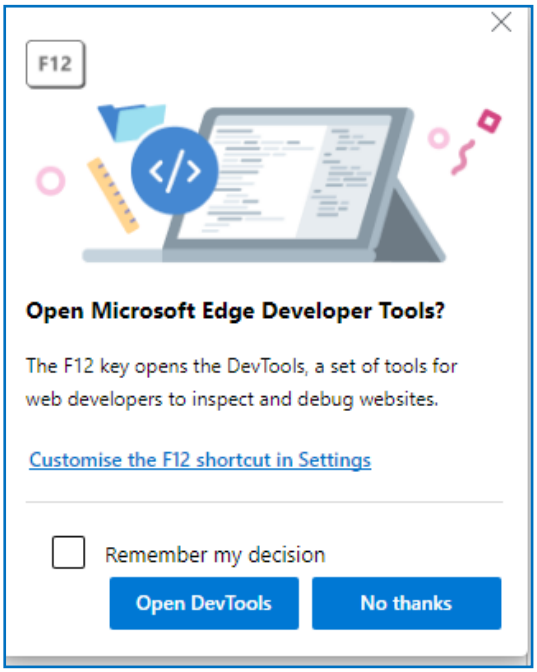
1. Open the case in BAM-C.
2. Open the developer tools by selecting the 3 dots in the top right corner of BAM-C (note, an alternative way to open these tools is to click F12 on your keyboard):



   a. Select ‘More tools’ and then ‘Developer tools’.

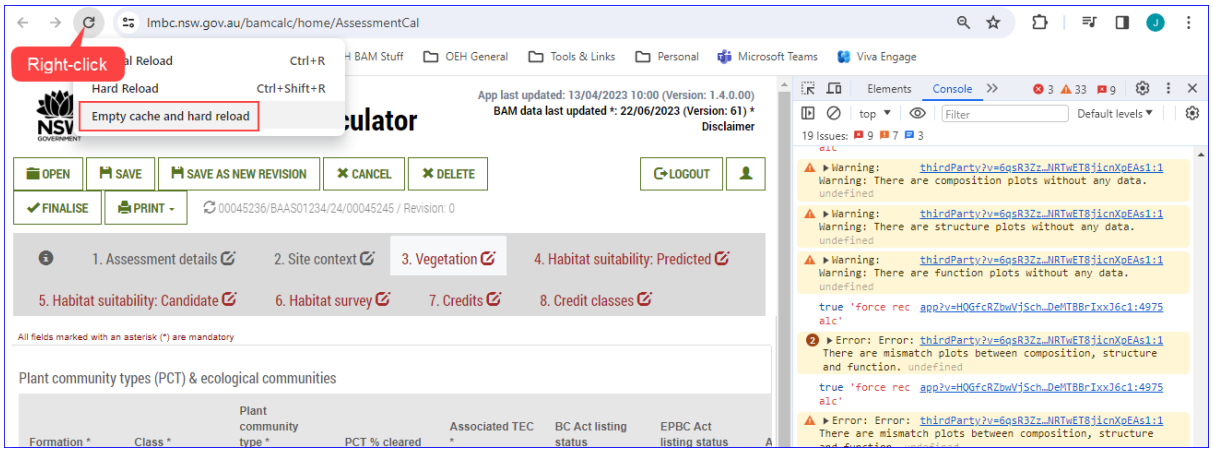


b. If using Microsoft Edge, you might also be prompted to click 'Open DevTools'.



c. Opening the developer tools will enable developer mode. This provides additional functionality to the webpage, including the option to clear the cache.

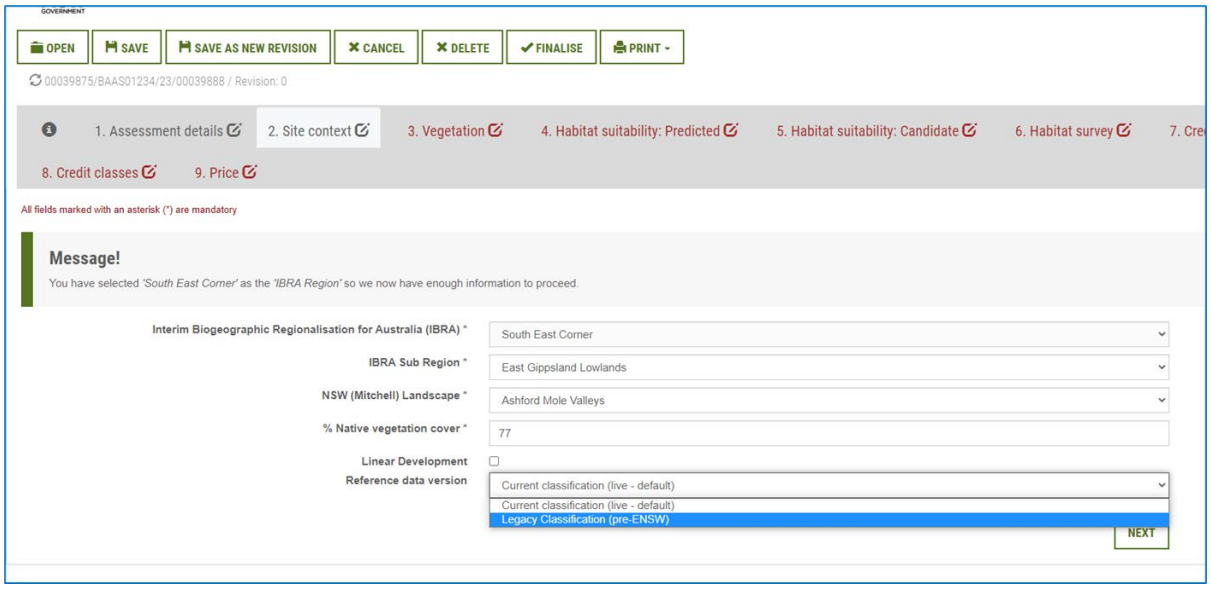
3. Right-click on the reload button and select ‘Empty cache and hard reload’.



The page will refresh. Sometimes this also prompts a page reload error message to appear.

4. Close the BAM-C.
5. Reopen the case in BAM-C.

As long as the transitional arrangements are still in place, you should now be able to select the applicable legacy classification from the ‘Reference data version’ drop-down.



Appendix B – Resources

For general enquiries about the Biodiversity Offsets Scheme or application of this guide, contact the department online at Biodiversity Offsets Scheme Help Desk.

The following are useful resources available online.

Supporting information

- About BioNet Vegetation Classification
- Biodiversity Assessment Method 2020 (BAM 2020)
- Biodiversity Assessment Method 2020 Operational Manual – Stage 1
- Biodiversity Assessment Method 2020 Operational Manual – Stage 2
- Biodiversity Assessment Method 2020 Operational Manual – Stage 3
- Biodiversity Assessment Method Calculator public version
- Biodiversity Conservation Fund Charge System
- Biodiversity Offsets and Agreement Management System (BOAMS)
- Biodiversity Offsets and Agreement Management System (BOAMS) Guide for Accredited Assessors
- Biodiversity Offsets and Agreement Management System (BOAMS) Guide for Community Users
- Biodiversity Offsets and Agreement Management System (BOAMS) registered user access
- Biodiversity Offsets and Agreement Management System (BOAMS) create an account
- Biodiversity Values Map
- BioNet Threatened Biodiversity Profiles
- BioNet Vegetation Classification (Veg-C)
- Bioregions of New South Wales
- Biodiversity Offsets Scheme updates
- Descriptions for NSW (Mitchell) Landscapes [PDF 1.3MB]
- Native Vegetation Regulatory Map
- New vegetation integrity benchmarks and plant community types
- NSW BioNet resources
- Offset rules and ecosystem credits
- Serious and irreversible impacts of development on biodiversity
- Streamlined assessment module planted native vegetation
- Threatened biodiversity profile search
- When does the Biodiversity Offsets Scheme apply?

Legislation

- Biodiversity Conservation Act 2016 (NSW)
- Biodiversity Conservation Act 2016 (NSW) Schedule 2
- Environment Protection and Biodiversity Conservation Act 1999 (Cth)
- Environment Protection and Biodiversity Conservation Act 1999 (Approved List)
- Local Land Services Act 2013
- State Environmental Planning Policy (Biodiversity and Conservation) 2021