Interim Grasslands and other Groundcover Assessment Method Calculator

User guide

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1. Introduction

1.1. The interim Grasslands and other Groundcover Assessment Method Calculator

The Interim GGAM Calculator is an online interactive tool to support implementation of the interim Grasslands and Other Groundcover Assessment Methodology (GGAM). The Interim GGAM Calculator follows the rules and calculations outlined in the Interim GGAM, and assists the user in applying the Interim GGAM at a site and determining the conservation value of groundcover vegetation areas.

1.2. Scope of the Interim GGAM Calculator

The Interim GGAM Calculator contains all biodiversity data for NSW available in BioNet. The Interim GGAM Calculator has biodiversity data from all Interim Biogeographic Regionalisation for Australia (IBRA regions) and all Plant Community Types (PCT).

The Interim GGAM Calculator is available from two sources. The full version can be accessed through the Native Vegetation Case Management System as part of a Landholder Initiated Map Review. Users must be registered as an Appropriately Qualified Person to access this. A trial (or 'standalone') version may also be accessed for demonstration purposes. This version does not enable users to save data or print an IGGAM Certificate.

1.3. Purpose and structure of this document

This document provides an outline of the process for completing an Interim GGAM assessment, the functions/calculations performed and the results presented by the Interim GGAM Calculator.

This document does not describe the assessment process or functioning of the Interim GGAM in detail. This document does not describe the rationale behind the vegetation integrity, or habitat suitability calculations. Users can refer to the Interim GGAM document for a more detailed explanation of the assessment process and calculations.

This document is aligned with the tab structure of the Interim GGAM Calculator and provides:

- an outline of the purpose of the tab and a flowchart of the user actions required in the tab
- a map of the key functions users need to complete in the tab
- a brief description of the steps users need to complete to perform an assessment
- references to relevant sections of the Interim GGAM, the BAM and other useful information.

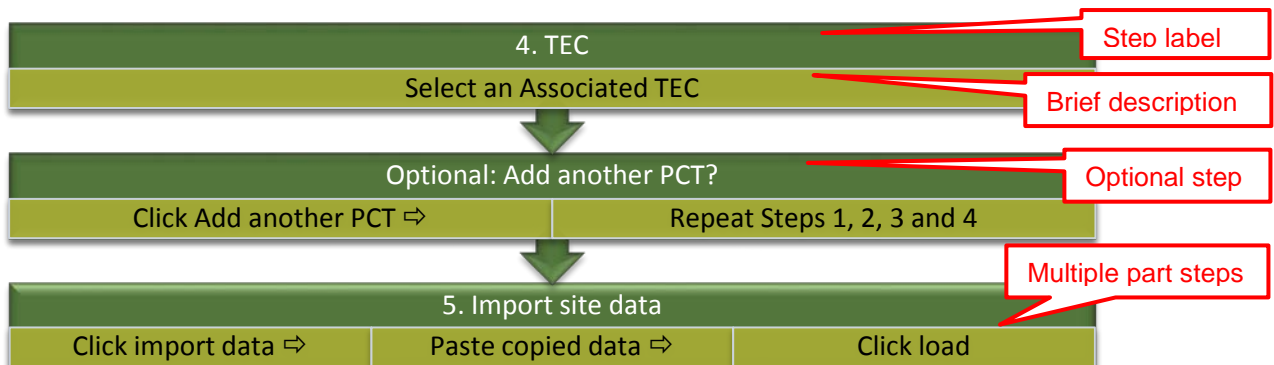The flowchart provides the following information:

Figure 1   Workflow of user actions required in tab

2. Starting off

2.1. Launch the interim GGAM Calculator

Open the Interim GGAM Calculator tool:
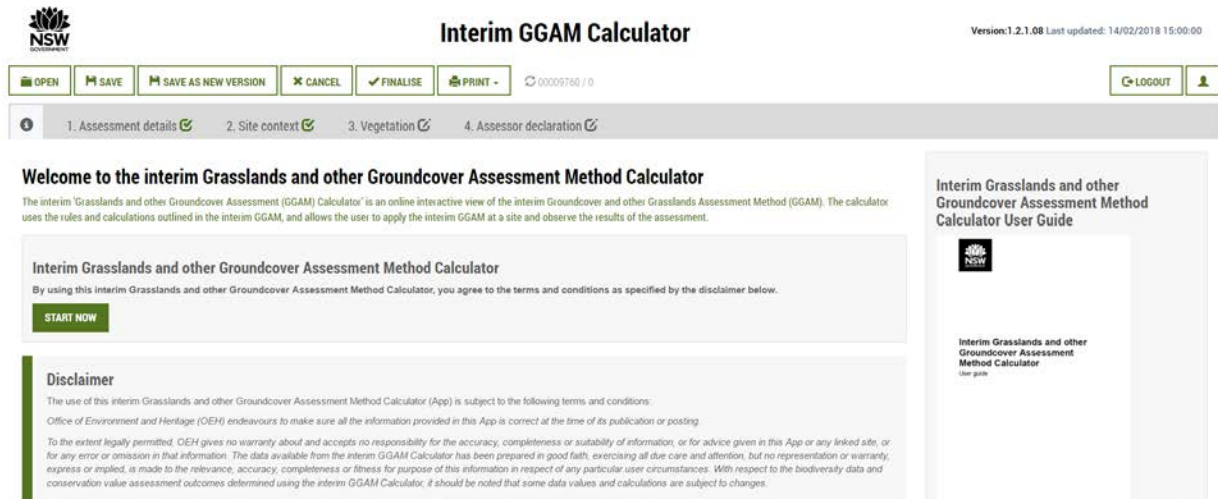
2.2. Download the user guide

Click the 'Download' button:

The user guide (this document) outlines the step-by-step process to using the Interim GGAM Calculator.

2.3. Start an assessment

Click the 'Start now' button:

You'll be taken to the assessment details tab.

You can also click on the tab headings to navigate between tabs. You'll only be able to navigate to tabs that have been previously commenced or completed.

2.4. Create New assessment

Click the 'Create New' button:

Any details filled in for the assessment will be wiped out and a new assessment can be started. Click on Assessment details tab to start filling in new details.

This option is only available in the standalone version.

3.   General functions

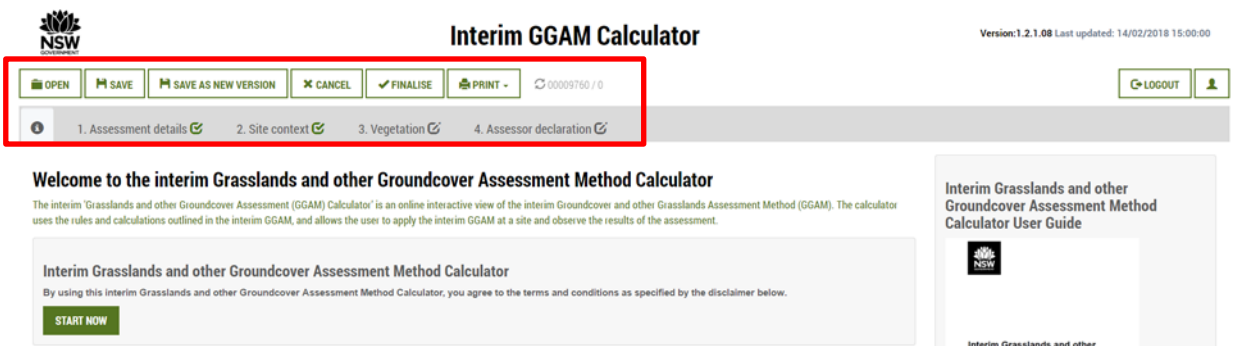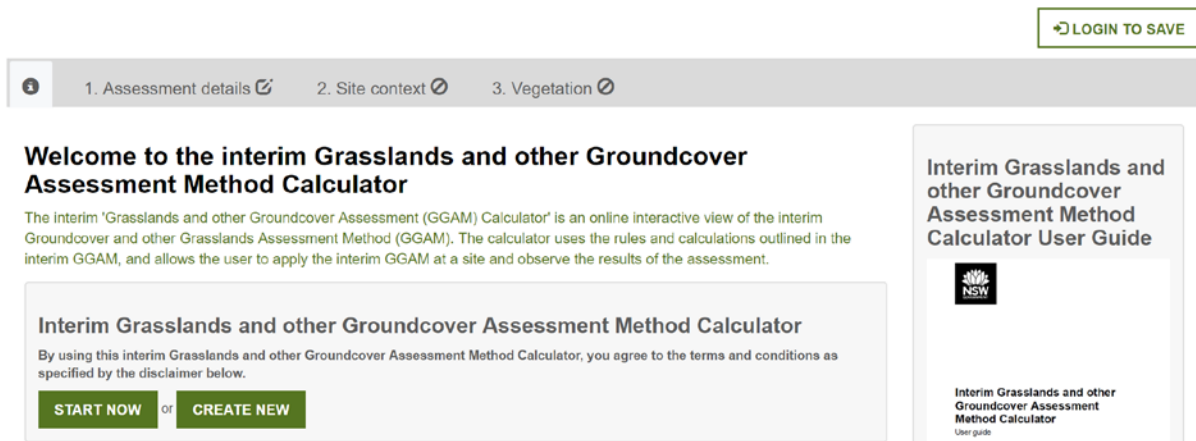In the version of the IGGAM Calculator accessed via the Native Vegetation Case Management System, there are a number of high-level functions that act across all tabs to help users manage assessments and create output from the Calculator.

In the standalone version, no high-level functions are available.

3.1. Open an existing assessment

1.   Click the 'Open' button:

You'll be taken to the Open assessment dialog box. This box shows the list of assessments versions saved for the currently open assessment.

Assessment ID	Proposal Name	Status	Revision	Updated on
00009652		Open	1	16/10/2017 14:06:46
00009652		Open	0	16/10/2017 13:39:03

2. Click on a number or name in the Revisions column to open that assessment.

    You'll be return to the Assessment Details page with the data that has been saved for that assessment and will be able to continue.

3.2. Save an assessment

1. Click the 'Save' button:

2. The current assessment will be saved with all entered data and completed calculations.

3.3. Save as new version

1. Click the 'Save as new version' button:

2.   A new version of the current assessment will be saved with all updated data and completed calculations.

## 3.4. Cancel progress

1. Click the 'Cancel' button:

2. All entered data and calculations completed since the last save will be cleared and the assessment will revert to the previously saved information.

3.5. Finalise

1. Click the 'Finalise' button when all the data is entered and you are ready to submit the assessment:

2. Once finalised, the button changes to read 'Re-Open', the application is submitted and you have an option to re-open and update the application.
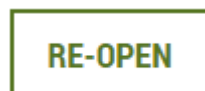
    'Save' and 'Save as new version' buttons become de-activated and 'Open' button allows looking at different versions along with information about which version is submitted.
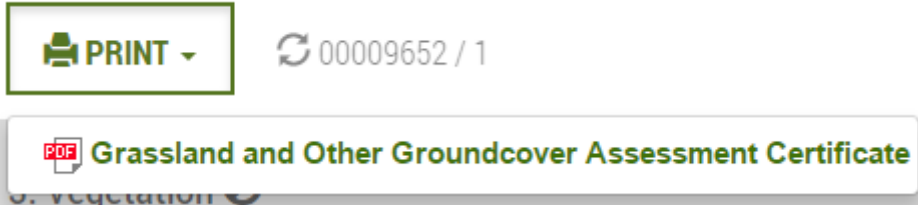
3.6. Print a report

1. Click the 'Print' button:

2. A dropdown list of the available reports will be displayed:

3. Click on the desired report.

   The report will be opened in PDF format.
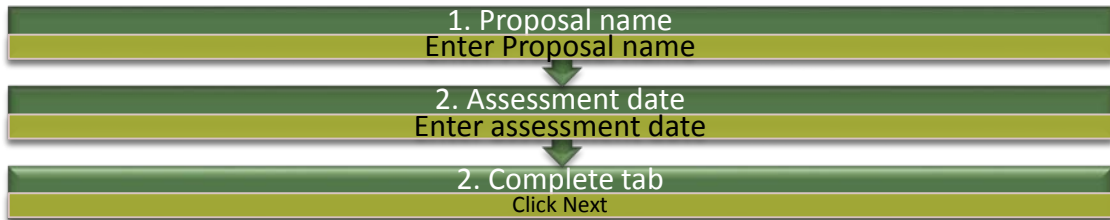
3.7. Logout

1. Click the 'Logout' button:

2. User gets logged out of the calculator and the standalone version of Interim GGAM calculator loads.

4. Entering assessment details

The 'Assessment details' tab is used to enter information used to identify the Interim GGAM assessment.

The steps to be taken by the user to complete this tab are displayed in the flow diagram below:

Figure 2 **Workflow overview for 'Assessment details' tab.**

Click on the Assessment details tab:

4.1. Enter the proposal name (optional)

1. Click in the input box next to 'Proposal name' and enter a name for the proposal:

Assessment ID will not be generated for unsaved assessments.

4.2. Enter the assessment date

1. Click on the calendar box next to 'Assessment date' and select the date of the assessment:

2. Click the 'Next button'.

5. Defining the site context

The 'Site context' tab is used to enter information to assess the biogeographic and landscape setting of the site.

The steps to be taken by the user to complete this tab are displayed in the flow diagram below. Further details on individual function and calculations performed are provided in sections 5.1 to 5.3.
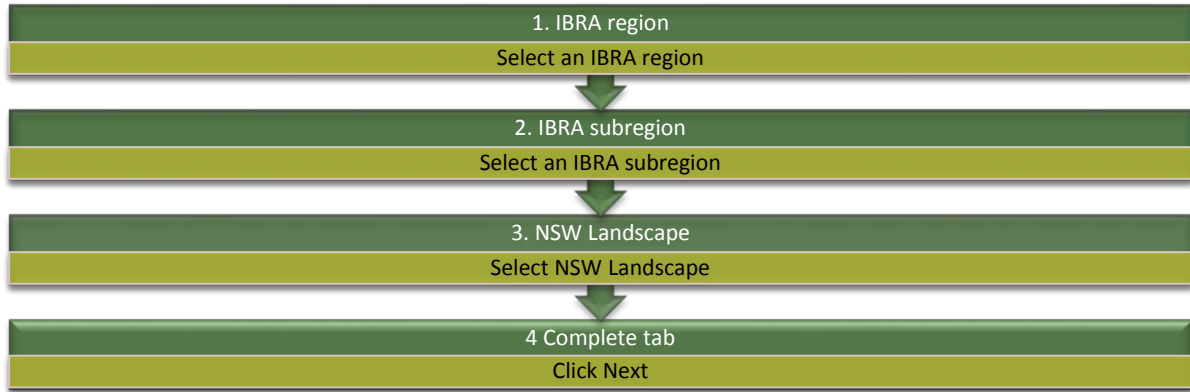
Figure 3   Workflow overview for 'Site context' tab

Click on the Site context tab"

5.1. Specify the IBRA Region

1. Click on the 'Interim Biogeographic Regionalisation for Australia (IBRA)' dropdown:

2. Select the IBRA region in which with majority of the site is located.

(i) Further information on IBRA classification is available on the <u>OEH What is a bioregion? webpage</u>.

5.2. Specify the IBRA subregion

1. Click on the 'IBRA Subregion' dropdown:

2. Select the IBRA subregion in which the majority of the site is located.

5.3. Specify the NSW Landscape

1. Click on the 'NSW Landscape' dropdown:

2. Select the NSW landscape in which the majority of the site occurs.

NSW landscape does not influence calculations of vegetation integrity. Selection of Mitchell landscape is not mandatory.

ⓘFurther information on NSW Landscapes classification is available in Descriptions for NSW (Mitchell) Landscapes: Version 2 (2002).
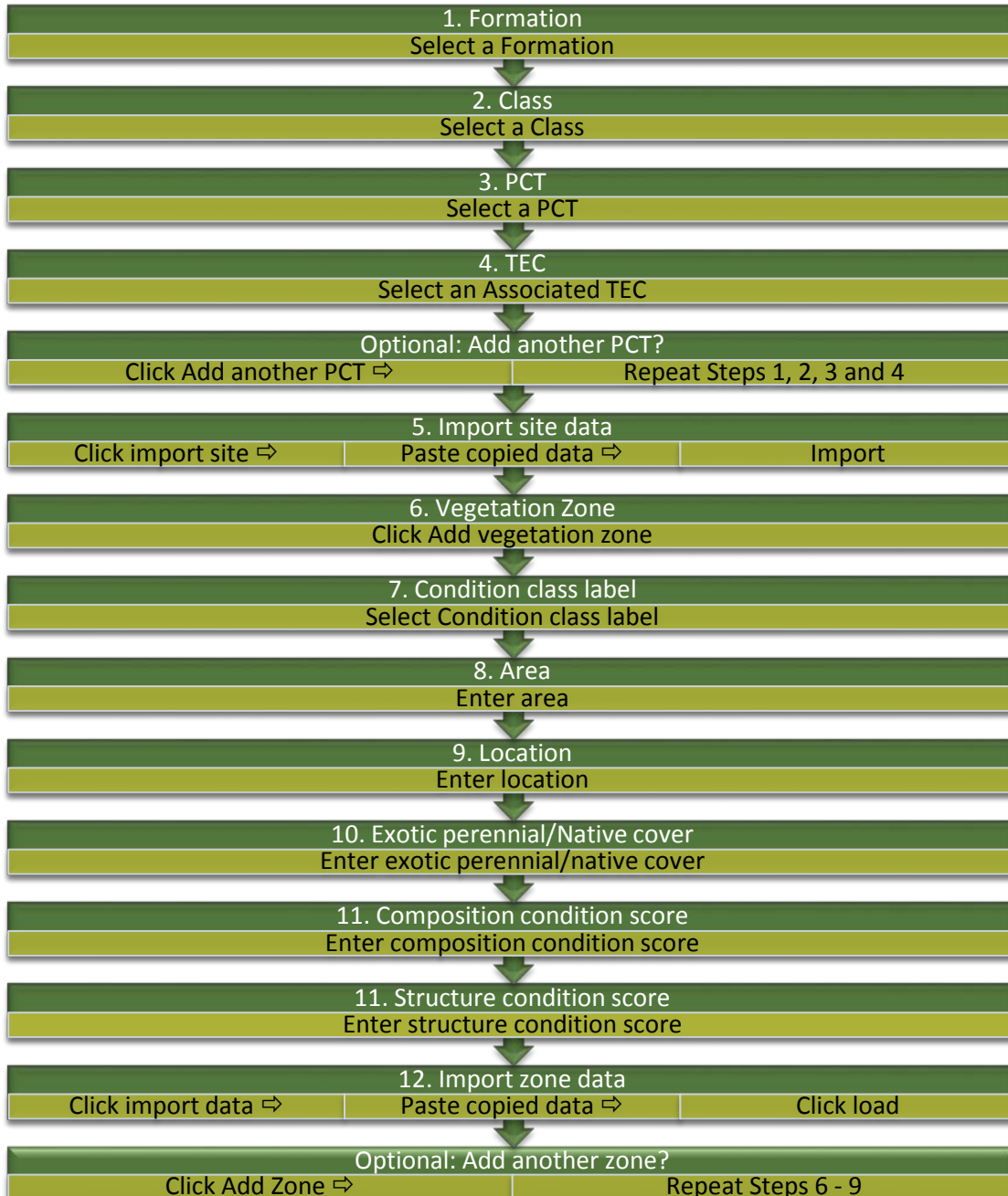
3. Click the 'Next' button

6. Determining the conservation value

The 'Vegetation' tab is used to enter information to specify the PCT present on the site and to enter plot data used to calculate vegetation integrity scores and determine the conservation values.

The steps to be taken by the user to complete this tab using the data import feature are displayed in the flow diagram below (Figure 4). Steps taken if the users elects to enter data plot by plot is indicated in Figure 5. Further details on individual function and calculations performed are provided in section 6.1 to 6.3.
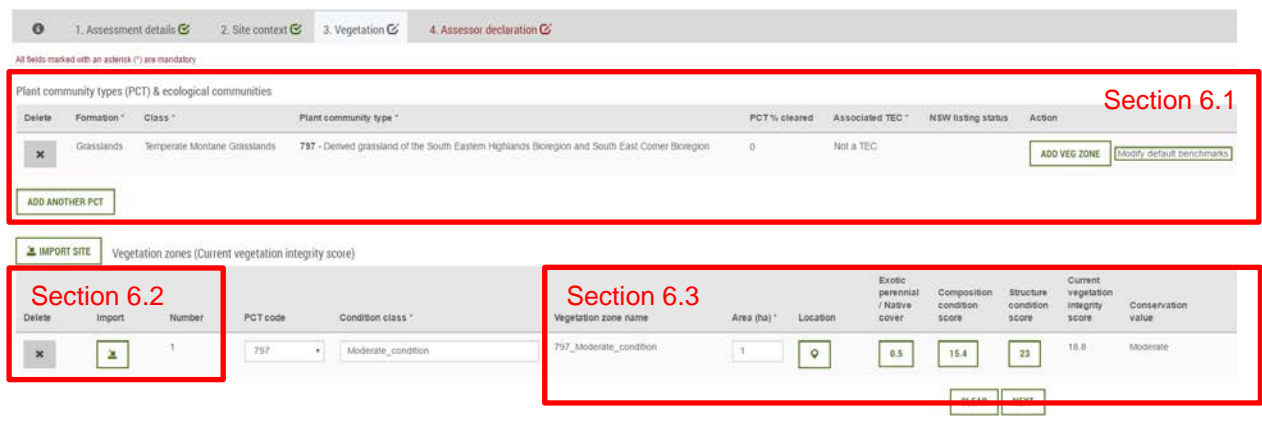
| 1. Formation |
| Select a Formation |

| 2. Class |
| Select a Class |

| 3. PCT |
| Select a PCT |

| 4. TEC |
| Select an Associated TEC |

| Optional: Add another PCT? | |
| Click Add another PCT ⇨ | Repeat Steps 1, 2, 3 and 4 |

| 5. Import site data | | |
| Click import site ⇨ | Paste copied data ⇨ | Import |

| 6. Vegetation Zone |
| Click Add vegetation zone |

| 7. Condition class label |
| Select Condition class label |

| 8. Area |
| Enter area |

| 9. Location |
| Enter location |

| 10. Exotic perennial/Native cover |
| Enter exotic perennial/native cover |

| 11. Composition condition score |
| Enter composition condition score |

| 11. Structure condition score |
| Enter structure condition score |

| 12. Import zone data | | |
| Click import data ⇨ | Paste copied data ⇨ | Click load |

| Optional: Add another zone? | |
| Click Add Zone ⇨ | Repeat Steps 6 - 9 |

Figure 4   Workflow overview for 'Vegetation' tab – entering data for vegetation zones using the import feature.

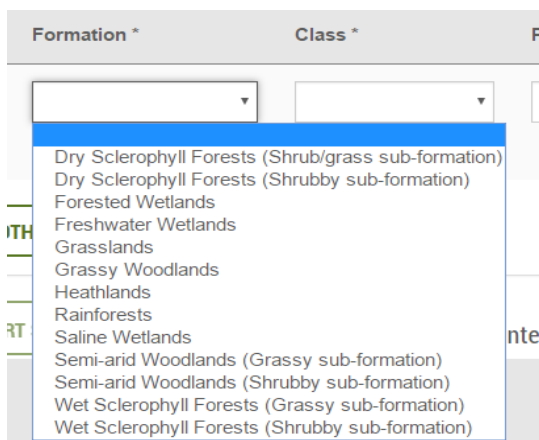**Note:** Steps 1-3 can be performed in any order.
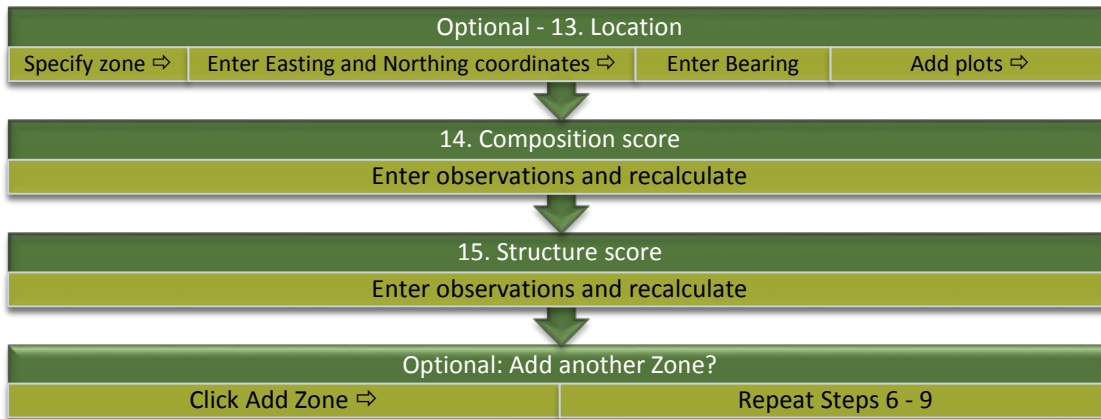
Figure 5 **Workflow overview for 'Vegetation' tab – entering data for vegetation zones directly into the survey popups.**

Click on the 'Vegetation' tab:

6.1. Define the plant community type and threatened ecological community and zones

1. Click on the 'Formation' dropdown:

2. Select required formation for the required PCT.

Further information on vegetation formations is available on the OEH Bionet Vegetation Classification webpage.

3. Click on 'Class' dropdown:

4. Select required class.

Further information on Vegetation Classes is available on the OEH Bionet Vegetation Classification webpage.

5. Click on 'Plant community type' dropdown:

6. Select the required PCT.

    If the PCT selected is not a non-woody formation, a message will be displayed below the PCT name indicating that the PCT can only be assessed as a 'derived native grassland' using the Interim GGAM Calculator. For derived native grasslands, condition of vegetation in the tree and shrub growth form group is not assessed.

    If the PCT selected is either a saline or freshwater wetland, any vegetation zone associated with this PCT cannot be classified and will return a result of 'not determined'.

The percentage cleared value for the PCT will be displayed under 'PCT % cleared'.

PCT % cleared
90

If the PCT is more than 95% cleared, any vegetation zone associated with this PCT will automatically be classified as high conservation value.

ⓘ A detailed description of each PCT and its geographic distribution is contained within the Vegetation Classification Database and is publicly available from the OEH Vegetation Information System webpage.

7. Click on 'Associated TEC' dropdown.

8. Select the relevant TEC. If no TEC is associated with the PCT, select 'Not a TEC'.

   Listing status will be displayed under 'NSW Listing status'.

Plant community types (PCT) & ecological communities

Delete	Formation *	Class *	Plant community type *	PCT % cleared	Associated TEC *	NSW listing status	Action
✖	Grassy Woodlands	Western Slopes Grassy Woodlands	266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion Note: "Selected PCT will be assessed as a Derived Native Grassland"	94	Not a TEC		ADD VEG ZONE Modify default benchmarks
✖	Dry Sclerophyll Forests (Shrub/grass sub-formation)	Piliga Outwash Dry Sclerophyll Forests	88 - Piliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion Note: "Selected PCT will be assessed as a Derived Native Grassland"	38	▾		ADD VEG ZONE Modify default benchmarks

🗒 Only TECs with a known association with the selected PCT are shown in the dropdown.

ⓘ A detailed description of each threatened ecological community is available from the OEH website at http://www.environment.nsw.gov.au/threatenedSpeciesApp/

ⓘ Listing status of the TEC in Schedule 2 of the proposed *Biodiversity Conservation Act 2016*, or under Part 13 of the *Environment Protection Biodiversity Conservation Act 1999*, from reference data.

9. Click the 'Add veg zone' button under the Action column:

Action
ADD VEG ZONE

A vegetation zone record will be added to the vegetation integrity score section.

Vegetation zones (and their data) can be added one of two ways. Firstly, data can be entered manually (step 10 below; Section 6.3). Alternatively, data can be entered using a template that allows for entering multiple plots (Section 6.2).

10. For PCTs with multiple vegetation zones, click the 'Add veg zone' to add a record for each vegetation zone required.

Action
ADD VEG ZONE

A zone number will be generated and the relevant PCT number for each record and displayed:

Number	PCT code
1	1300

11. Click on the 'Condition class' column and enter a condition class label for the zone:

Condition class *

Classname1

Zone condition class is solely a label for zone identification purposes and does not have any influence on vegetation integrity calculations.

12. A vegetation zone name will be generated and displayed under the 'Vegetation zone name' column:

Vegetation zone name

1300_Good

13. Enter the area for the vegetation zone under the 'Area (ha)' column:

Area (ha)

10

14. Click on Location box and add in details.

Location   ADD PLOT   CLOSE

Item	Zone *	Easting *	Northing *	Bearing *
Plot 1				

15. Click the exotic perennial/native cover box and enter the values for the vegetation zone:

**Exotic-Native data**   RECALCULATE   CLOSE

Ratio : 0.38

Item	Exotic	Native
Plot 1	30	50

16. Click the 'Add another PCT' button (if required) and repeat the above steps for vegetation zones in the next PCT:

ADD ANOTHER PCT

17. Click on 'Modify default benchmarks' button (if required) and modify the default values for composition or structure condition scores by clicking on 'Unlock' button and then 'Update' to save the changes.
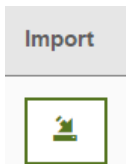
Modify default benchmarks
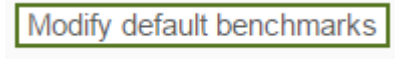
Select type:	Tree (4)	Shrub (14)	Grass & grass like (6)	Forb (13)	Fern (1)	Other (2)
Composition ▼	0	0	6	13	1	2
Composition						
Structure						Unlock Update Cancel

ADD ANOTHER PCT

6.2. Import data

1. Click the 'Import' icon next to the vegetation zone you wish to import data for:

Import

2. Download csv template by clicking on 'this template file' link in the 'Import' popup:

Import data   CLOSE

Use this tool to bulk import plot data for this vegetation zone

You may use **this template file** to construct your data and then copy and paste it here

Copy and paste the text here

Errors

CLEAR PLOTS   IMPORT

3. Open the template in Excel, populate the template with observation values, save the template. Row 1 of the template is reserved for headers; row 2 of the template is reserved for example data. Users should enter data into the template from row 3.
4. Highlight and copy the column headings and data (including Rows 1 and 2) from Excel.
5. Click the 'Import' icon to reopen the 'Import' popup:
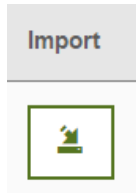
Import

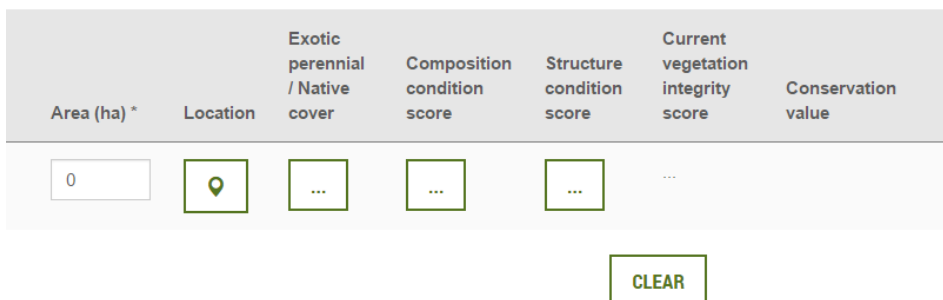6. Paste the copied data from the Excel file into the popup.
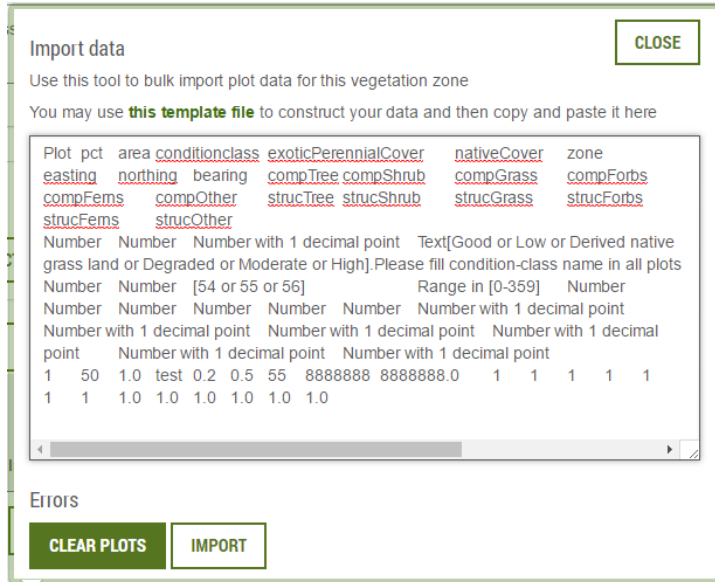
7. Click the 'Import' button:

IMPORT

8. Click the 'Close' button:

CLOSE

9. Your data will be imported in the relevant condition score popups and the scores will be automatically calculated, with the condition score boxes for each condition attribute changing from showing no score (indicated by three full stops):
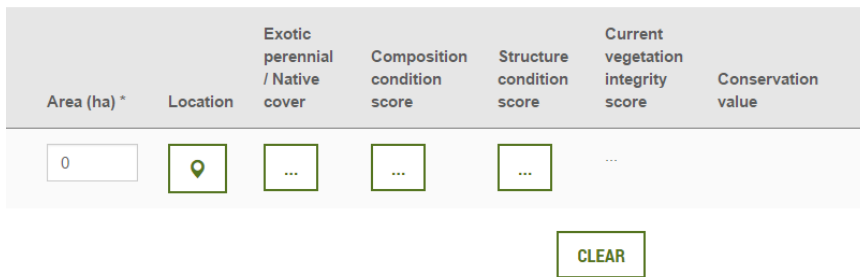

to showing a numeric score value:

10. To clear imported data, click the 'Import' tool icon to reopen the 'Import' popup:
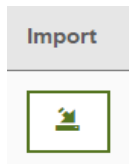
11. Click the 'Clear plots' button:

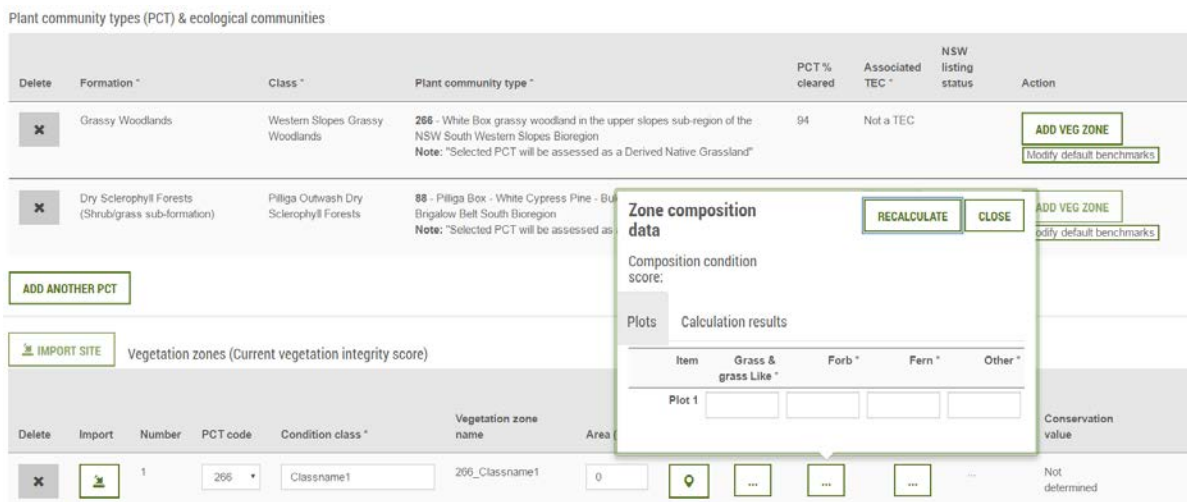

All imported data will be cleared and '…' will be displayed in condition score boxes:

6.3. Calculate the current vegetation integrity score and conservation value

1. Click on the condition score box under 'Composition condition score' to open the 'Composition condition score' popup:

2. If you have imported data, skip this step. Otherwise, click on the 'Plots' tab and enter the required composition observation values in Plot 1 for each growth form group.

3. If required, add another plot by clicking the 'Add plot' button in the 'Location' popup and add further data. Repeat as required:

ADD PLOT

4. Click the 'Recalculate' button to prompt calculation of the Composition score for the zone:

RECALCULATE

Click on 'Calculation results' tab to see the benchmarks and intermediate calculations used to determine the score and results:

The following calculations are shown in this popup:

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: Interim GGAM Calculator 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 distribution.

Weighted composition score: Interim GGAM Calculator calculates and displays 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: Interim GGAM Calculator 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).

Note: Weightings for composition and structure are calculated using a similar approach. For further information on these weightings and calculations please refer to Appendix 6 of the BAM.

5. Click the 'Close' button:

6. Click on the condition score box under 'Structure score' to open the 'Structure condition score' popup and repeat the above steps 2 to 5 to determine the Structure score:

7. Click on 'Calculation results' tab to see the intermediate calculations in determining the score and results

The same calculations as described for composition are performed for structure. See BAM Appendix 6.

8. Click the 'Close' button:

9. After completing the composition and structure calculations, the current vegetation integrity score will be displayed under the 'Current vegetation integrity score' column.

Current vegetation integrity score
91.7

10. After completing the required input, the conservation value will be displayed under the 'Conservation value' column.

    Note: this value may become populated at any stage while entering data. In some cases, only the 'exotic perennial/native cover' value is required. If the conservation value is able to be defined based on the settings within the IGGAM it will be populated. Otherwise, it will return a result of 'not determined' until the appropriate data is added.

Exotic perennial / Native cover	Composition condition score	Structure condition score	Current vegetation integrity score	Conservation value
0.3	15.2	100	38.9	Moderate

CLEAR   NEXT

11. Click 'Next' to proceed to the assessor declaration.

7. Completing the Assessor Declaration

7.1. Assessor Declaration Fields

1. Users must complete the assessor declaration as a confirmation that the IGGAM assessment has been conducted in accordance with the appropriate settings. If the conditions in the declaration have been met, the 'Yes' checkbox must be checked.

2. If any of the conditions of the declaration cannot be met, the assessor must check the 'No' checkbox, and complete the associated justification.

3.   If the declaration has not been fully completed, the application cannot be finalised. An alert will appear is users attempt to finalise the assessment without completing all fields of the declaration.

4.   Once the declaration has been completed, the date of completion will be automatically populated. Results of the declaration will be added to the GGAM Certificate.

Grassland and Other Groundcover Assessment Certificate

Assessor declaration

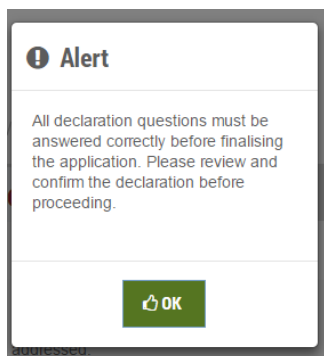| Number	Declaration	Statement	Justification
1	Yes	I am a suitably qualified assessor as defined in Section 2.2 of the Interim Grasslands and other Groundcover Assessment Method.	
2	Yes	The assessed vegetation is classified as groundcover vegetation and meets the Area Requirements outlined in Section 3.1.2 of the Interim Grasslands and other Groundcover Assessment Method.	
3	No	The assessment has been conducted in an appropriate season.	Exotic perennial status still apparent in April
4	No	The vegetation has not been disrupted within six months prior to the assessment such that the typical assemblage of species is absent.	Vegetation was disturbed 5.5 months ago but typical assemblage of species is present
5	Yes	Total groundcover vegetation is greater than 10% cover across each vegetation zone.	
6	Yes	The potential for threatened species to occur on the site has been identified.	

8.   Finalise Application

1.   Click 'Finalise' to complete the application. Once finalised, the GGAM certificate will be attached to the Native Vegetation Case Management System.