



BioNet Atlas user manual 2019

For all users

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Part A Introduction

This manual supports the New South Wales Office of Environment and Heritage's (OEH's) BioNet Atlas application.

The manual comprises seven parts:

- Part A: Introduction (please read this section first, before proceeding to other Parts)
- Part B: Species sightings
- Part C: Systematic Flora surveys
- Part D: Systematic Fauna surveys
- Part E: Threatened Biodiversity Profiles
- Part F: Administration
- Part G: Appendices

This manual provides a step by step guide for all types of users of this application.

This manual replaces the BioNet Atlas user manual (Registered, Licensed and OEH versions), the Systematic Flora Survey user manual (Public, Licensed and OEH versions), the Systematic Fauna survey licensed user manual (Licensed and OEH versions), the Threatened Species Profiles user manual as well as the Overview manual of the BioNet Atlas.

This manual is now the single source for all types of users, from those accessing the publicly available search component, through to users with a secure login, including holders of a Sensitive Species Data Licence and OEH staff carrying out administrative functions.

As not all functions and modules are available to all users, and individual screen shots may vary depending on user role, each section of this manual is prefaced with which users will have view or edit rights. Where there are variations in the screens in the application, this is highlighted throughout this manual. As such, please note that some of the screenshots throughout may not exactly match what you see on your screen, depending on your level of access and also the browser and version you are using.

Any queries about this manual can be directed to bionet@environment.nsw.gov.au.

1. Background

1.1 What is BioNet?

Before we get into the BioNet Atlas application, it is important to first understand the terminology around 'BioNet'. BioNet is a system of biodiversity information governed by the Office of Environment and Heritage which includes a number of data collections maintained across several applications and portals. These applications include BioNet Atlas, BioNet Threatened Biodiversity Profiles, BioNet Vegetation Classification and BioNet Vegetation Maps. Table 1.1 provides a summary of the names of the BioNet data collections we hold and relevant applications ('user interfaces') you can use to access them.

Table 1.1 Summary of names for BioNet data and systems

Data (what we hold)			Interface (how you access)		
Repository	Collection	Collection (abbreviation)	Dataset	User interface (UI)	Application program interface (API)
BioNet	Species Sightings	Sightings	<i>Numerous, e.g.: OEH, Scientific Licence, BirdLife Aus, Forests NSW.</i>	BioNet Atlas	BioNet Web Services
	Species Names	Species	Species Names	BioNet Atlas	BioNet Web Services
	Threatened Biodiversity Profiles	Threatened Biodiversity	Threatened Species, Threatened Ecological Communities, Key threatening processes, Endangered Populations,	Threatened Biodiversity Profiles BioNet Atlas	BioNet Web Services
	Systematic Surveys	Surveys	<i>Numerous, e.g.: Syd Metro flora survey, Everlasting Swamp National Park fauna survey</i>	BioNet Atlas	
	Vegetation Classification	Classification	Plant Community Type (PCT) Classification, PCT Clearing, PCT-Threatened Biodiversity Associations, Vegetation Condition	BioNet Vegetation Classification	BioNet Web Services

Data (what we hold)

Interface (how you access)

		Benchmarks, Vegetation Class and Formation Classification.		
NSW Landscapes	Landscapes	Mitchell NSW Landscapes	BioNet Vegetation Classification	BioNet Web Services
Vegetation Maps	Vegetation Maps	State Vegetation Type Maps. Non-standardised Vegetation Type Maps Threatened Ecological Community Maps	SEED data portal	
Distribution Maps	Species Distribution Maps	Numerous, e.g. BioNet indicative threatened species distributions	SEED data portal	
	Threatened Ecological Community Distribution Maps	To be developed	SEED data portal	

Historically, as names were applied solely to the applications (rather than the data contained within) and as the applications evolved, their names changed. This caused some confusion. Figure 1.1 provides a summary of BioNet’s development history capturing the historical names that applications have been referred to. For further background to the current naming structure, refer to the [BioNet naming protocol](#).

A Brief Summary of the NSW BioNet's Development History

Version 3.0
19.07.2018

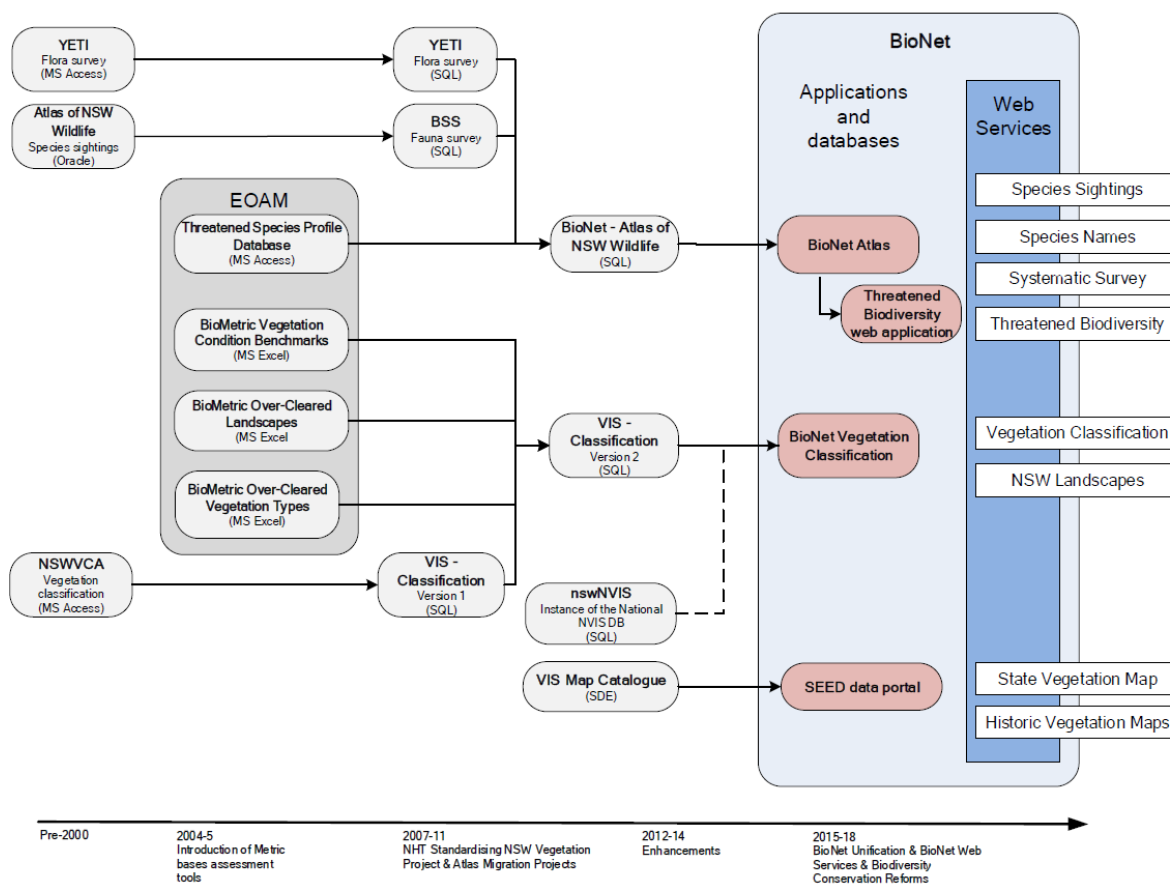


Figure 1.1 Summary of BioNet's development history

1.2 What is BioNet Atlas?

BioNet Atlas is an application that contains sightings of plants, mammals, birds, reptiles, amphibians, invertebrates, fungi and fish, and information on threatened biodiversity. It covers all of NSW and may include some records from neighbouring states.

BioNet Atlas has progressively evolved from a number of standalone databases since the 1980's. It was originally developed by the NSW National Parks and Wildlife Service (NPWS) to store plant and animal sightings recorded by NPWS staff and store unusual sightings reported from members of the public. It now contains a number of distinct data collections:

- **'Systematic Surveys'** – flora and fauna survey data that captures survey effort (i.e. number of people hours involved, number of traps per night) and the ability to infer negative data (i.e. absence data or sites where sightings were not made).
- **'Species Sightings'** – records of plants or animals not captured systematically (e.g. unusual 'one-off' sightings).
- **'Threatened Biodiversity'** – profile information for all species, populations, communities and key threatening processes listed under the Biodiversity Conservation Act 2016.
- **'Species Names'** – taxonomic information for all species for which records have been contributed to BioNet Atlas.

Within the BioNet Atlas application, these data collections are maintained and accessed via several modules.

1.3 BioNet Atlas modules

A module is essentially a menu item contained in the menu ribbon of the application on the main page after login. See Figure 1.2 for the full set of available modules.



Figure 1.2 BioNet Atlas modules

The BioNet Atlas application is comprised of the following nine modules;

- 'Species sightings search'
- 'Import spreadsheet'
- 'Species sightings'
- 'Fauna surveys'
- 'Flora surveys'
- 'Codes'
- 'Species names'
- 'Threatened biodiversity'
- 'Admin'.

Multiple modules are involved in maintaining each data collection, as summarised in Table 1.2.

Table 1.2 Relevant modules involved in maintaining each data collection

Data Collection	Relevant Modules
Systematic Surveys	Flora surveys Fauna surveys Species sightings search

Data Collection	Relevant Modules
	Import spreadsheet Codes Admin
Species Sightings	Species sightings search Species sightings Import spreadsheet Codes Admin
Species Names	Species names Codes Admin
Threatened Biodiversity Profiles	Threatened biodiversity Codes Admin

To access each of the modules, hover your mouse over the name in the menu ribbon. Either click on the module name, or where available, a dropdown list of options will display for this module. Click on the appropriate option.

Note access and ability to interact with each of the modules varies according to your user role. See Table 2.1 in Chapter 2 for details on different user roles and associated functions.

The available functions for each module are summarised below. These functions are expanded on in the relevant sections later in this manual.

1.3.1 'Species sightings search'

The 'Species sightings search' module allows users to carry out a number of functions. Users can search across the entire BioNet Atlas database for species records. Note that regardless of user access, a search will retrieve species records from both the 'Species Sightings' and 'Systematic Surveys' data collections. Users can also search for endangered populations and vegetation communities, and key threatening processes listed under the *Biodiversity Conservation Act 2016*.

Having conducted a search, a user can proceed to:

- save a species list for the nominated area
- map species records
- download record details in tab-delimited txt format, for example for use in a geographic information system (GIS)
- view profiles of any threatened species, populations or communities retrieved by their search.

1.3.2 'Import spreadsheet'

The 'Import spreadsheet' module allows for the bulk upload of records to the 'Species Sightings' and 'Systematic Surveys' data collections. After the user has uploaded their spreadsheet, the BioNet team undertake a final review before the records are imported and available via the 'Species sightings search' module.

Note that because a 'Species sightings search' will return species records from all modules, records should only be entered **once** into BioNet Atlas. Users wishing to enter data as systematic survey data (i.e. into the 'Flora surveys' and/or 'Fauna surveys' modules), should **not** submit a spreadsheet of summarised sightings separately, as this may result in duplicated records in the system.

1.3.3 'Species sightings'

The 'Species sightings' module allows users to:

- Manually enter 'Species sightings' records. At a minimum, all records must contain the following information
 - species names
 - date of observation
 - location details (coordinates, accuracy and location description)
 - observer name
 - observation type (for fauna only).
- Open and view details of any individual records held within BioNet Atlas (either 'Species Sightings', or 'Systematic Surveys' data collections).
- Edit details of 'Species sightings'. Note details of records contained in the 'Systematic Survey' data collection must be edited via the 'Flora surveys' or 'Fauna surveys' modules.

1.3.4 'Fauna surveys'

The 'Fauna surveys' module holds systematic fauna survey data.

This module allows for entry of fauna survey data into the 'Systematic Surveys' data collection.

While the 'Species sightings search' module will retrieve any relevant species records held in the 'Fauna Surveys' module, users can query the 'Fauna Surveys' module directly to search for fauna surveys or sites and export data.

1.3.5 'Flora surveys'

The 'Flora surveys' module holds systematic flora survey data.

This module allows for entry of flora survey data into the 'Systematic Surveys' data collection.

While the 'Species sightings search' module will retrieve any relevant species records held in the 'Flora surveys' module, users can query the 'Flora Surveys' module directly to search for flora surveys or sites and export data.

1.3.6 'Codes'

The 'Codes' module allows users to access the full list of codes (other than species names) available across all BioNet Atlas modules. For example, the module contains listings of codes for use in the 'Flora Surveys', 'Fauna Surveys', 'Threatened Biodiversity' and 'Species Sightings' modules codes such as observation type, breeding type and geology.

This module provides view access as well as edit access to update and create new code values.

1.3.7 'Species names'

The 'Species names' module contains taxonomic details for all flora, fauna and fungi records maintained in the 'Species Names' data collection. This module provides view access for individual names as well as edit access to update and create new names. Refer to Tables 3.2 and 3.3 for details on how the associated species codes are assigned for each species.

1.3.8 'Threatened biodiversity'

The 'Threatened biodiversity' module manages profile information for all species, populations, communities and key threatening processes listed on the *Biodiversity Conservation Act 2016*. The

module provides view and maintenance of all information held in the 'Threatened Biodiversity Profiles' data collection.

Information for the 'Threatened Biodiversity Profiles' data collection is also accessible on the [Threatened species pages](#).

1.3.9 'Admin'

The 'Admin' module allows for maintenance of user accounts, profiles and datasets.

For a simplistic overview of how the various modules and applications relate, refer to Figure 1.3.

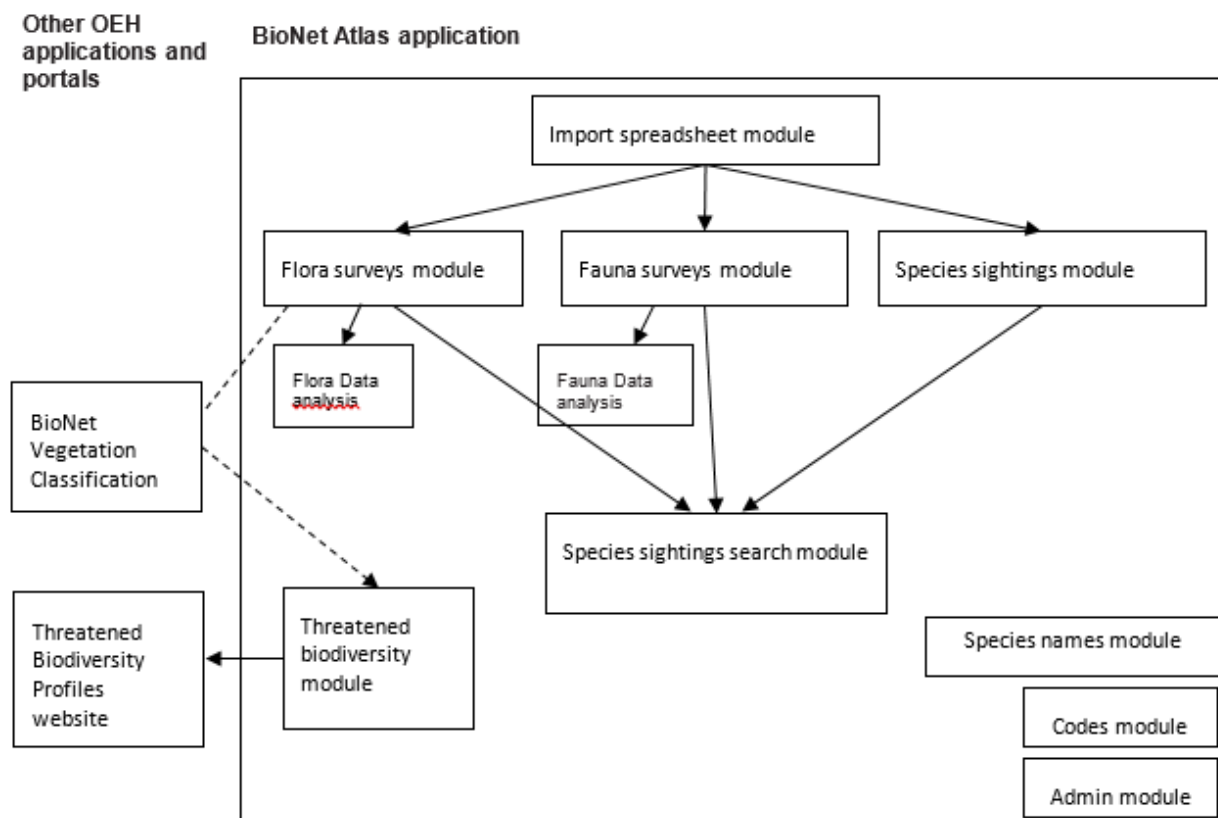


Figure 1.3 Simplistic overview of the relationship between modules in the BioNet Atlas application

1.4 Governance and accountabilities

The BioNet Atlas database is maintained by the BioNet team, located within the Biodiversity Information Systems team (BIST), Native Vegetation Science Branch, Science Division, of OEH. Please direct all queries to the [BioNet team](#).

1.5 Legislation and policies governing access to data from BioNet

The provision of all data from BioNet Atlas is governed by the following legislation and policies.

1.5.1 Sensitive Species Data Policy

Access to data held in the 'Species Sightings' and 'Systematic Surveys' data collections is governed by OEH's [Sensitive Species Data Policy](#).

'Sensitive' species are generally a subset of threatened flora and fauna species which are identified under the Sensitive Species Data Policy as being particularly sensitive to threats such as collection or disease. Precise location data for sensitive species is not made publicly available by OEH, and this information is exempt from disclosure for the purposes of the *Government Information (Public Access) Act 2009* (GIPA Act) .

OEH staff should not provide any data they extract from the 'Species Sightings search' or the 'Data maintenance' function of the 'Flora surveys' or 'Fauna surveys' modules, to anyone outside of OEH. Any enquiries for information should be directed to the BioNet team.

The only exception is OEH staff that can on-supply data to contractors engaged to do OEH work. Conditions/restrictions on the use of data should be covered in the contract used to engage them. If any clarification or assistance is required, they should contact the Data Exchange officer. Otherwise OEH staff should not on-supply internal or licensed data to any external users. Public data are fine.

1.5.2 Government Information (Public Access) Act (GIPA) 2009

Under the GIPA Act, all government-held information should be accessible to the public and information should only be withheld if it is necessary to do so in the public interest.

1.5.3 Privacy and Personal Information Act 1998

As a public sector agency, OEH is bound by the Privacy and Personal Information Act 1998 (NSW) which places restrictions on the release of personal information. Note that the release of personal information will vary depending on user role and which BioNet Atlas module is being accessed;

In the 'Flora surveys' module, for example, clients with a Sensitive Species Data Licence and edit rights may only access an observer list limited to individuals covered by their licence when they are adding or editing data. If personal details for these individuals need to be changed, or a new individual added to the database for use in data entry, licensed users will need to contact the BioNet team to facilitate this.

1.5.4 Data under license from other agencies

Some data are supplied to OEH by other agencies or organisations subject to a Data Licence or Agreement. Where the data is supplied to OEH for internal agency use only, the data is not made available to external clients.

2. Getting started

2.1 Levels of access

Within the BioNet Atlas application, access to the various modules is based on user role. There are eight levels of user of the database, each with limitations on the data the user can see and modifications that can be made. These controls are in place to prevent inadvertent edits to data and protect details of sensitive information. Section 2.1 provides a summary of these different user levels.

2.1.1 Public

The majority of the data held in BioNet Atlas is made available to the general public via the BioNet Atlas search and Threatened Biodiversity website applications. However precise locational information for Sensitive species, and observer names for sightings, are not publicly disclosed:

- In the public 'Species sightings search' module, records for Category 2 sensitive species are denatured to 0.1 degrees (~10 km); records for Category 3 sensitive species are denatured to 0.01 degrees (~1 km). Location description notes are not provided.
- In the public 'Flora surveys' module, records for Category 2 and 3 sensitive species are withheld.

There is no public access to the 'Fauna surveys' module to query the underlying site information, although the 'Species sightings search' module will return all relevant species records contained in the 'Fauna survey' module.

This level of user does not require a login.

2.1.2 Registered

Members of the public who do not require access to precise locational information for sensitive species, but who require access to some of the more specialist functions of the BioNet Atlas, may apply for a secure login as a Registered user. Registered users can:

- Access the 'Import spreadsheet', 'Species names' and 'Codes' modules, in order to upload sightings spreadsheets (for example to fulfil Scientific Licence requirements).
- Query the 'Threatened biodiversity' module, which contains profiles of threatened species, populations and communities and information about key threatening processes. This information is also available, without login, via the public 'Threatened Biodiversity app'.
- Access the 'Data Analysis' function of the 'Flora Surveys' module, to export data and carry out data analysis.

2.1.3 Sensitive Species Data Licence

A Sensitive Species Data Licence provides secure access to the BioNet Atlas application. The licence is renewed every five years and user access permissions are checked and updated at this time. There are two categories of sensitive species data licensed clients:

Sensitive Species Data Licence

Clients have access to all the modules available to registered users i.e. 'Species sightings search', 'Flora surveys' (including Data Analysis), 'Import spreadsheet', 'Codes', 'Species names' and 'Threatened biodiversity'.

In addition, clients have access to the 'Fauna surveys' module.

In the 'Species sightings search' module, location notes are available except for records of Category 2 sensitive species.

Records for Category 3 sensitive species are available at 'as-held' accuracy in the sightings and survey modules; and location description notes are available for these species.

Records for Category 2 sensitive species are denatured to 0.01 degrees (~ 1km) in the Search module, and location description notes are withheld for these species.

Records for Category 2 species are not available in the survey modules (which record multiple species at a single site).

No observer details are available in the sightings module; observer information is available in the survey modules.

Sensitive Species Data Licence with survey data entry rights

Users who, in addition to holding a Sensitive Species Data Licence, have been assigned survey data entry/edit rights (linked to login) pursuant to signing a BioNet Atlas Survey Data Provider Agreement.

Conditions as for Sensitive Species licensed users, as well as:

- Clients have edit rights to enter survey data into the 'Flora Surveys' and 'Fauna Surveys' modules, for nominated surveys¹.
- Clients have access to records for Category 2 sensitive species at 'as-held' accuracy in their own survey datasets. Category 2 species will continue to be removed for any surveys for which the user does not have edit rights.

'As-held' Sensitive Species Data Licence

Records for Category 3 sensitive species are available at 'as-held' accuracy in the sightings and survey modules, including location description notes.

These requests are vetted on a case-by-case basis, where users would need a valid reason to obtain this information (e.g. researcher/PhD student studying a single species). Note request requires approval from the Accountable Officer for each Sensitive Species. Pending approval, the Data Exchange officer runs the extraction release records.

2.1.4 Government

Government agencies that apply for a Sensitive Species Data Licence are provided government level access. All records are supplied with as-held coordinates. The only exceptions being some datasets which are provided to BioNet Atlas by third parties, for which we are not licensed to on-supply, are not made available.

2.1.5 OEH

OEH clients have the same functionality as those of sensitive species data licensed users with survey data entry rights, as well as:

- species flagged as Category 2 and Category 3 will be available to these users for all datasets
- view and edit access to the 'Species sightings' module.

¹ Note that clients do not have data entry/edit rights for observer information. Due to privacy issues, the observer table is maintained by the BioNet Atlas system administrator.

2.1.5 OEH Threatened Biodiversity

OEH Threatened Biodiversity clients have the same functionality as those of OEH users, as well as edit access to the 'Threatened biodiversity' module.²

2.1.6 OEH Threatened Biodiversity plus Profile Assessment Role

This level of user role has the same functionality as the OEH Threatened Biodiversity users, as well as the ability to update restricted fields in the Assessment tab of the 'Threatened Biodiversity' module, which affect the Biodiversity Assessment Method (BAM) credit calculator.

2.1.7 OEH Admin

This level of user has the capacity to manage higher functions within all BioNet Atlas modules such as the creation of datasets, management of user and group access to datasets and the maintenance of the species libraries. This is a role shared with the other modules of the BioNet Atlas and is reserved for BioNet staff.

Table 2.1 provides a summary of the specific modules and information available to each user role.

An additional role, 'Classification role', has been added to allow users to create and edit PCTs and assign census replicates to PCTs. This role can be added to any existing OEH at the discretion of the BioNet team.

² Some fields which impact the Biodiversity credit calculator are restricted to a small subset of OEH Threatened Biodiversity users who have 'Profile Assessment Role'. Accountable officers are required to request edits to selected fields by those staff with Profile Assessment Role.

Table 2.1 Summary of BioNet users and modules

Module			Sensitive Species Data Licence	Sensitive Species Data Licence + survey data entry rights	Government	OEH	OEH Threatened Biodiversity	OEH Threatened Biodiversity with Profile Assessment Role	OEH Admin
	Public	Registered							
Species Sightings Search	<p>Records for non-sensitive species available at as-held accuracy</p> <p>Records for Category 3 sensitive species denatured to 0.01 degree (~1km)</p> <p>Records for Category 2 Sensitive Species denatured to 0.1 degree (~10km)</p> <p>Location description not supplied</p> <p>Observer details not supplied.</p> <p>Note some datasets are excluded.</p>	As for Public user	<p>Records for non-sensitive species available at as-held accuracy</p> <p>Records for Category 3 sensitive species available at as-held accuracy</p> <p>Records for Category 2 sensitive species denatured to 0.01 degree (~1km)</p> <p>Location description supplied, except for Category 2 sensitive species</p> <p>Observer details not supplied.</p> <p>Note some datasets are excluded</p>	As for Sensitive Species Data Licence	<p>As for OEH, general with the exception that some datasets from external sources are not available due to licensing restrictions (e.g. BirdLife Australia)</p> <p>As-held</p> <p>All datasets excluding limited # external datasets</p>	<p>All records available at as-held accuracy</p> <p>Location description available</p> <p>Observer details supplied</p>	As for OEH	As for OEH	As for OEH
Import spreadsheet	No	Available to submit; 'Species sightings' data	Available to submit; 'Species sightings' data	Available to submit; 'Species sightings' data 'Systematic surveys' data	Available to submit; 'Species sightings' data	Available to submit; 'Species sightings' data Systematic survey data	As for OEH.	As for OEH	Available to submit and Import spreadsheets and Search Import log
Species sightings	No	No	No	No	No	Available	Available	Available	Available

Module			Sensitive Species Data Licence	Sensitive Species Data Licence + survey data entry rights	Government	OEH	OEH Threatened Biodiversity	OEH Threatened Biodiversity with Profile Assessment Role	OEH Admin
	Public	Registered							
Fauna surveys	No	No	Site coordinates available as-held Records for Category 3 sensitive species available as-held Records for Category 2 sensitive species removed Observer details available	As for Sensitive Species Data Licence users, but with data entry and edit rights for nominated data sets; users can access records for Category 2 sensitive species for these nominated datasets only	As for Sensitive Species Data Licence	Site coordinates available 'as-held' Records for Category 2 and Category 3 sensitive species available as-held Observer details available Data entry and edit rights for nominated datasets	As for OEH.		As for OEH
Flora surveys	Site coordinates available as-held. Records for Category 2 and 3 sensitive species removed. Observer details removed	Site coordinates available as-held Records for Category 2 and 3 sensitive species removed Access to data analysis function (observer details available)	Site coordinates available as-held Records for Category 3 sensitive species available as-held Records for Category 2 sensitive species removed Access to data analysis function (observer details available)	As for Sensitive Species Data Licence, but; <ul style="list-style-type: none"> includes data entry and edit rights for nominated datasets users can access records for Category 2 sensitive species for these nominated datasets only 	As for Sensitive Species Data Licence	Site coordinates available as-held Records for Category 2 and 3 sensitive species available as-held Access to data analysis function (observer details available) Data entry and edit rights for nominated datasets	As for OEH.	As for OEH	As for OEH

Module	Public	Registered	Sensitive Species Data Licence	Sensitive Species Data Licence + survey data entry rights	Government	OEH	OEH Threatened Biodiversity	OEH Threatened Biodiversity with Profile Assessment Role	OEH Admin
	Threatened biodiversity	No, though can access via ThreatenedSpeciesapp.	View access	View access	View access	View access	View access	Edit access, excluding Profile Assessment Role fields	Edit access including Profile Assessment Role fields
Codes	No	View access	View access	View access	View access	View access	View access	View access	Edit access
Species Names	No	View access	View access	View access	View access	View access	View access	View access	Edit access
Admin	No	No	No	No	No	No	No	No	Edit access

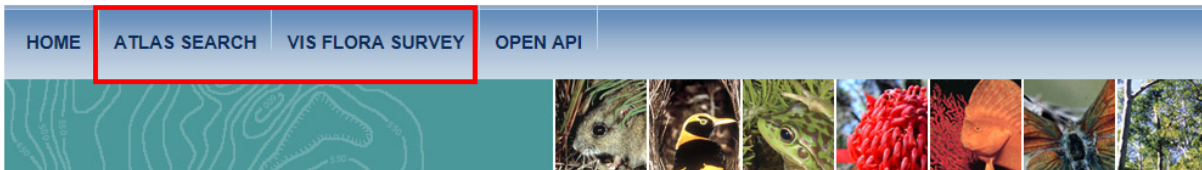
2.2 Apply as a user and login

The application process will differ depending on the type of user you require. Refer to Table 2.1 to determine the required access most appropriate for your needs.

Public access requires no registration.

2.2.1 Public login

Go to the [BioNet homepage](#) and either click on the 'Atlas search' or 'VIS Flora survey' menu options from the top menu bar (see top of Figure 2.1), or click on 'BioNet Atlas search' or 'Systematic flora survey' (see bottom of Figure 2.1).



Home > Bionet

NSW BioNet

gateway to NSW biodiversity information



NSW BioNet is the repository for biodiversity data products managed by the Office of Environment and Heritage (OEH).

BioNet aims to improve biodiversity outcomes by enabling the community and government to proactively manage and enhance biodiversity in NSW through comprehensive, credible and robust information.

Getting started

BioNet is made up of a number of data collections. Refer to the links under 'Data collections' for more information. These collections are mostly contained within two core applications; [BioNet Atlas](#) and [BioNet Vegetation Classification](#).

In addition to these applications, biodiversity information can also be accessed via:

- an Open Application Programming Interface (API). [Learn more about BioNet Web Services](#)
- [SEED](#) environmental data portal.

You can submit your own sightings records to BioNet Atlas. [Learn more about contributing](#).

How to access BioNet Atlas

The BioNet Atlas application contains the following data collections:

- Species Sightings
- Systematic Surveys
- Threatened Biodiversity
- Species Names.

Public access

Public users, please click on the relevant link below to search the BioNet Atlas and interrogate the Systematic flora survey data collection:

- [BioNet Atlas search](#)
- [Systematic flora survey](#) and [Systematic flora survey user manual](#).

News

- [Newsletter September 2018](#)
- [Newsletter December 2017](#)
- [BioNet upgrade August 2017](#)
- [BioNet is evolving August 2017](#)
- [Newsletter July 2017](#)
- [Restore and Renew April 2017](#)

Resources

- [Quick Guides, Manuals, Datasheets, Standards and Release Notes](#)
- [BioNet product naming protocol](#)
- [BioNet Web Services](#)

Data collections

- [Species Sightings](#)
- [Systematic Surveys \(Flora\)](#)
- [Threatened biodiversity](#)
- [Vegetation Classification](#)
- [Vegetation Maps](#)

Archived

- [BioMetric datasets](#)

Related links

- [PlantNET](#)

Figure 2.1 Public BioNet Atlas search link and menu bar tab; 'Systematic flora survey' link (also shown in the menu bar as 'VIS Flora Survey')

2.2.2 Registered user application process

From the BioNet homepage, click on the 'Registered user' link (see Figure 2.2). Then fill in your details under the 'Apply to register' section and submit the application.

How to access BioNet Atlas

The BioNet Atlas application contains the following data collections:

- Species Sightings
- Systematic Surveys
- Threatened Biodiversity
- Species Names.

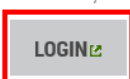
Public access

Public users, please click on the relevant link below to search the BioNet Atlas and interrogate the Systematic flora survey data collection:

- [BioNet Atlas search](#)
- [Systematic flora survey](#) and [Systematic flora survey user manual](#).

Login access

OEH staff, licensed users and registered users:



New users can either:

- apply for [Registered user](#) access, which will provide you with access to additional system functionality, including ability to upload spreadsheets of species sightings and systematic survey data, or to use the data analysis function in the Systematic Flora survey data module
- apply for a [Sensitive Species Data Licence](#) which will also provide you with access to more detailed location information about sensitive threatened species than is available on this public site (conditions apply). BioNet Atlas data is made available according to the Office of Environment and Heritage's [sensitive species data policy](#).

Figure 2.2 Location of links to apply for secure access to BioNet Atlas

The BioNet team will respond with secure login details.

Login by clicking the Login button under 'How to access BioNet Atlas' from the BioNet homepage (see Figure 2.2).

2.2.3 Sensitive Species Data Licence access

From the BioNet homepage, click on the 'Sensitive Species Data Licence' link (see Figure 2.2). Then fill in your details under the 'Application for a Sensitive Species Data Licence' section and submit the application.

Larger corporations can obtain generic licences that will cover them for the bulk of their activities. This style of licence requires the signatory and contact to nominate all staff requiring access to the application so that individual user accounts can be created.

Once your details have been reviewed by the BioNet team, they will issue you with a BioNet Sensitive Species Data Licence agreement to sign. All licences are now renewed on a five-year cycle, with user access permissions checked and updated at the time of renewal.

Further to this, if you wish to contribute systematic survey data you will also need to complete a BioNet Atlas Survey Data Provider Agreement.

Login by clicking the Login button under 'How to access BioNet Atlas' from the BioNet homepage (see Figure 2.2).

2.2.4 Access for OEH staff

Email the [BioNet team](#) your network username to organise login access to the system.

The BioNet team will respond with secure login details.

Login by clicking the Login button under 'How to access BioNet Atlas' from the BioNet homepage (see Figure 2.2).

Note for OEH access as an 'Accountable Officer', the request needs to come from the relevant EaTs team leader. 'Profile Assessment Role' access is restricted to a small subset of OEH staff from the Conservation Programs Branch. Requests to assign either role need to be emailed to the [BioNet team](#).

2.2.5 Access for other Government

Government agencies that apply for a Sensitive Species Data Licence are provided government level access.

Government bodies can obtain generic licences that will cover them for the bulk of their activities. This style of licence requires the signatory and contact to nominate all staff requiring access to the application so that individual user accounts can be created.

Once your details have been reviewed by the BioNet team, they will issue you with a licence agreement to sign. All licences are renewed on a five-year cycle, with user access permissions checked and updated at the time of renewal.

Login by clicking the Login button under 'How to access BioNet Atlas' from the BioNet homepage (see Figure 2.2).

2.3 Homepage features

2.3.1 Supporting documentation and help

In addition to this user manual, all supporting documentation including periodic updates to data holdings published separately as Release notes, are available at the NSW BioNet quick guides, manuals and datasheets webpage, which can be accessed from the right-hand menu of the NSW BioNet homepage.

Help hot-links are displayed for some fields. Click on the help hot-link to display a pop-up containing advice on selecting values in a particular field.

Where further clarification needed, please email the [BioNet team](#).

2.3.2 Timer countdown

Each time an authorised user logs in to the BioNet Atlas secure homepage, a menu ribbon will be visible at the top of the screen. A timer countdown is displayed at the top right-hand corner of the application screen (see Figure 2.3).

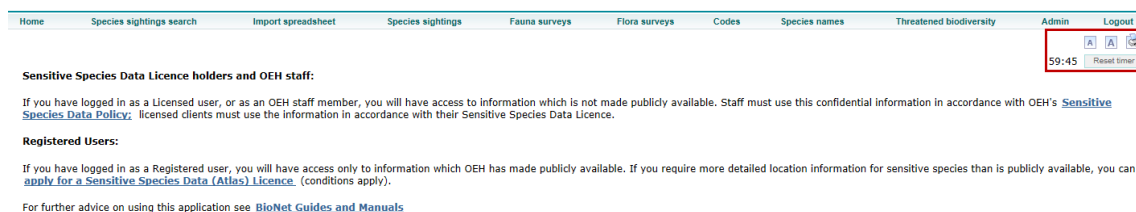


Figure 2.3 Location of timer countdown on the homepage

Users are allowed 60 minutes before the system automatically logs off if there has been no page activity. It automatically resets when you interact with the application e.g. saving, updating and navigating to a new page automatically resets the timer, however scrolling between tabs does

not. When the counter gets down to less than one minute, a warning message will appear (see Figure 2.4).

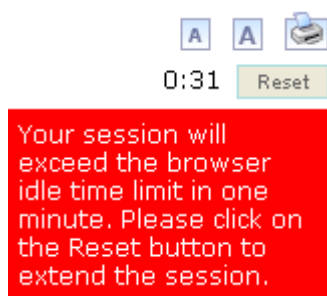


Figure 2.4 Warning message when session about to expire

You can reset the timer back to 60 minutes by clicking on the 'Reset' button, located to the right of the counter.

If your session times out, a pop-up will appear.

If you click 'OK' you will be redirected to the BioNet Atlas' secure home page.

If you click 'Cancel' you will remain on your current page, however, you are no longer in a valid session so will only be able to view the information for the page you are on. The countdown timer will be replaced by the text '**Session expired**'. If you click a link on the page you will be redirected to the BioNet Atlas secure home page.

2.3.3 Logging out

Once you have finished with your BioNet Atlas session, do one of the following:

1. Close your internet browser and you will be logged out automatically.
2. Click on the 'Logout' menu. You will then be redirected back to the OEH online security portal login page.

Note that if, after logging out, you subsequently login, you will be directed to the 'My applications' page, listing all the applications that you have access to.

3. Click on the 'BioNet Atlas' link to be directed to the BioNet Atlas secure homepage.

2.3.4 Warnings

Use of back arrow and backspace

Clicking on your browsers back arrow button may kick you out of the current BioNet Atlas session. Similarly, with using your browser's back button, using the backspace key of your keyboard may throw you out of your current session, or return you to the BioNet Atlas secure homepage.

Firefox users

Pressing the Enter key will attempt to save/submit your data before you are ready to. Use the Tab key to move between cells (Tab to move to the next sequential cell, and Shift and Tab to move backwards), or use your mouse to click in the cells as necessary.

2.4 Mapping/reporting restrictions

Licensed clients and OEH staff must take care to **not to publish locational information to which they have privileged access**. Where maps/reports containing records for Category 2 or 3 sensitive species will be publicly available, staff and licensed users may:

- use maps or coordinates sourced from the **public** BioNet Atlas public website (i.e. don't login)
- use maps at a scale no finer than **1:250,000**
- report the data in some other way that generalises the location of sensitive species (licensed clients must obtain permission from OEH before using another method*).

In general, OEH staff preparing maps/reports for publication may use records from datasets supplied for internal OEH use only, provided they include an appropriate acknowledgement; however, some datasets have special conditions of use attached. OEH staff should check the Atlas user manual for current advice about special conditions and acknowledgements.

2.5 Referencing BioNet Atlas data

Data extracted from any of the BioNet Atlas modules ('Species sightings', Flora surveys', and 'Fauna surveys') should be cited or referenced in any bibliography as follows:

NSW Office of Environment and Heritage (<insert year>) BioNet Atlas. Data accessed <insert dd/mm/yyyy>.

3. ‘Species Names’ and ‘Codes’

View and edit functions in this module are available to users as outlined in Table 3.1.

Table 3.1 Access to ‘Species Names’ and ‘Codes’ modules by User Role

Func.	Public	Regist.	Sens. Spp. Data Lic.	Sens. Spp. Data Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	N	Y	Y	Y	Y	Y	Y	Y
Edit	N	N	N	N	N	N	N	Y

3.1 ‘Species Names’

The ‘Species Names’ module provides taxonomic details for all flora, fauna and fungi taxa maintained within the BioNet Atlas. Note that fungi are included in the flora option.

3.1.1 Search for an existing species

1. Click on ‘Species names’ on the top menu. The ‘Species Maintenance’ page appears (see Figure 3.1).

Species Maintenance

Search Species

Scientific Name Common Name

Species Code

Species Type Fauna Flora

Figure 3.1 ‘Species maintenance’ page

1. Ensure the correct ‘species type’ is selected and enter full (or partial) values into any of the available search fields (‘scientific name’, ‘common name’ or ‘species code’).
2. Click on ‘Search’. All available species that **contain** your search value will return (as shown in Figure 3.2 for the search term ‘cockatoo’).

Species code	Scientific name	Common name	
0269	Cacatua galerita	Sulphur-crested Cockatoo	Review
G/PH	Cacatua Hybrid	Galah/Pink Cockatoo	Review
L/PH	Cacatua Hybrid	Little Corella/Pink Cockatoo	Review
0268	Callocephalon fimbriatum	Gang-gang Cockatoo	Review
0264	Calyptorhynchus banksii	Red-tailed Black-Cockatoo	Review
8858	Calyptorhynchus banksii banksii	Red-tailed Black-Cockatoo (coastal subspecies)	Review
8857	Calyptorhynchus banksii samueli	Red-tailed Black-Cockatoo (inland subspecies)	Review
0266	Calyptorhynchus baudinii	Long-billed Black-Cockatoo	Review
0267	Calyptorhynchus funereus	Yellow-tailed Black-Cockatoo	Review
0265	Calyptorhynchus lathami	Glossy Black-Cockatoo	Review
0794	Calyptorhynchus latirostris	Short-billed Black-Cockatoo	Review
9070	Calyptorhynchus sp.	Unidentified Black-cockatoo	Review
0270	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Review
0263	Probosciger aterrimus	Palm Cockatoo	Review

Figure 3.2 Results page for a ‘Species maintenance’ search for ‘cockatoo’

3.1.2 Review an existing species

1. Click on 'Review' to the right on the species you wish to review. The 'Species maintenance' page opens. The page will look slightly different depending on whether you are reviewing a fauna or flora species:
 - The fauna 'species maintenance' page (see Figure 3.3) contains details for taxonomy and legal status, as detailed in Table 3.2
 - The flora 'species maintenance' page (see Figure 3.4) contains details for taxonomy and legal status, as detailed in Table 3.3.

Species Maintenance

Species Details

Species Type: Fauna Layer: IBRA Subregion Currently Accepted: Yes No

Species code: 0268 Scientific Name: Callocephalon fimbriatum

Taxon Code: 0268 Taxon Name: Callocephalon fimbriatum

Latest Taxon Code: 0268 Latest Taxon:

External SpeciesID:

Genus Name: Callocephalon Species Name: fimbriatum

Authority: (Grant, 1803) Subspecies Name:

Order: Psittaciformes Family Name: Cacatuidae

Synonyms: Class: Aves

Taxonomy: Australian Faunal Directory 16/4/2002

Common Name: Gang-gang Cockatoo Other Common Names:

Bio Status Name: Alive in NSW, Native General Type: Birds

TSC Act: Vulnerable Date Listed: 22/07/2005

Commonwealth Status: CITES Status:

NPWS Status: Protected Sensitivity Class: Sensitivity Class 3

CAMBA: Fauna Keeper Class:

JAMBA: ROKAMBA:

PNF:

History

Date created: 15/12/1995 12:48:15 Created by: Atlas Conversion

Date Updated: 11/11/2011 11:23:09 Updated by: Atlas Conversion

[Search Again](#)

Figure 3.3 'Species Maintenance' page for Gang-Gang Cockatoo (fauna)

Table 3.2 Fauna species maintenance fields

Field	Description
Species type	Fauna.
Layer	The geographic layer type by which the species' accepted spatial distribution is defined.
Currently Accepted	Currently an empty field.
Species code	The unique code assigned to the species. Uses the CAVS (Census of Australian Vertebrate Species) code as assigned by ABRS . If a CAVS code has not yet been assigned, a temporary code beginning with the letter 'T' will be created.
Scientific Name	The Scientific name.
Taxon Code	If the species is a synonym of another species, this field will contain the unique species code of the name the species has been referenced to.

Field	Description
Taxon Name (Search)	If the species is a synonym of another species, this field will contain the scientific name the species has been referenced to.
Latest Taxon code	If the species is a synonym of another species, this field will contain the unique species code of the most current name. This will only differ from the Taxon Code if the name referenced in Taxon Name is itself a synonym of another species.
Latest Taxon	If the species is a synonym of another species, this field will contain the most current scientific name by which this species is known.
External SpeciesID	Where another organisation lists the species under a different unique code.
Genus Name	The Genus name.
Species Name	The Species name.
Subspecies Name	The Subspecies name.
Authority	The name of the person responsible for describing the taxon.
Family Name	The Family name.
Order	The Order name.
Class	The Class name.
Synonyms	Any other scientific names by which this species has been previously known. Note that these may not necessarily be within the BioNet Atlas.
Taxonomy	The taxonomic reference from which the details of this species taxonomy were obtained (e.g. taxonomic website, scientific journal).
Common Name	The main common name by which this species is known.
Other Common Names	Any other common names by which this species is known.
Bio Status Name	The species' biological status in NSW.
General Type	The general category to which this species belongs.
Threatened Species Conservation (TSC) Act*	If the species is listed under the <i>Biodiversity Conservation Act 2016</i> (BC Act), one of the following legal status listings will display; E – Endangered E2 - Endangered population E4 - Presumed Extinct E4A - Critically endangered species V - Vulnerable
*Note while the field in BioNet Atlas still references the TSC Act, the values refer to the <i>Biodiversity Conservation Act 2016</i> .	
Date Listed	If the species is listed under the BC Act, the date the species was gazetted.
Commonwealth Status	If the species is listed under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), one of the following legal status listings will display; CD - Conservation dependent CE - Critically endangered E - Endangered V - Vulnerable X - Extinct XW - Extinct in the wild

Field	Description
CITES Status	The <u>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</u> is an international agreement between governments. Listing is either; Appendix I Appendix II Appendix III
NPWS Status	If the species is listed under the <u>NSW National Parks and Wildlife Act 1974</u> (NPW Act), the following legal status listings will display; P – Protected Fauna
Sensitivity Class	If the species is listed under OEH's <u>Sensitive Species Data Policy</u> , one of the following will display; Sensitivity Class 1 Sensitivity Class 2 Sensitivity Class 3
CAMBA	If the species is listed on the <u>China-Australia Migratory Bird Agreement</u> .
Fauna Keeper Class	Those species which <u>require a licence</u> for people to keep. Class 1 licence – refers to species that are easy to look after Class 2 licence – refers to species that are rare and more difficult to keep
JAMBA	If the species is listed on the <u>Japan-Australia Migratory Bird Agreement</u> .
ROKAMBA	If the species is listed on the <u>Republic of Korea-Australia Migratory Bird Agreement</u> .

Species Maintenance

59:16 [Reset](#)

Species Type	Flora	Layer	Botanical Division	Currently Accepted	<input type="checkbox"/> Yes <input type="checkbox"/> No
Species Details					
Species code	5488	Scientific Name	Telopea speciosissima	Spatial distribution	
Taxon Code	9506	Taxon Name	Telopea speciosissima <input type="button" value="Search"/>		
Latest Taxon Code	9506	Latest Taxon	Telopea speciosissima		
External SpeciesID		PATN Label	Telopespec		
Genus Name					
Genus Name	Telopea	Species Name	speciosissima		
Subspecies Rank		Subspecies Name			
Is Hybrid	<input type="checkbox"/> Yes <input type="checkbox"/> No	Hybrid Rank			
Is Cultivar	<input type="checkbox"/> Yes <input type="checkbox"/> No	Cultivar Name			
Authority		Family Name	Proteaceae		
Order	Flora	Class	Flora		
Synonyms	Telopea speciosissima				
Taxonomy					
Common Name	Waratah	Other Common Names			
Bio Status Name					
Bio Status Name	Alive in NSW, Native	General Type			
TSC Act		Date Listed			
Commonwealth Status		CITES Status			
NPWS Status					
NPWS Status		Sensitivity Class			
NPWS Flowers		NPWS Foliage			
NPWS Whole Plant					
Extent Type					
Extent Type		Conservation Type			
Adequacy Type		Threat Type			
History					
Date created	15/12/1995 1:50:22 PM	Created by	Atlas Conversion		
Date Updated	27/02/2007 7:02:05 PM	Updated by	Philip Gleeson		

Figure 3.4 'Species Maintenance' page for Waratah (flora)

Table 3.3 Flora species maintenance fields

Field	Description
Species type	Flora.
Layer	The geographic layer type by which the species' spatial distribution is defined.
Currently Accepted	Currently an empty field.
Species code	The unique code assigned to the species by OEH.
Scientific Name	The scientific name.
Taxon Code	The unique species code.
Taxon Name (Search)	If the species is a synonym of another species, this field will contain the scientific name the species has been referenced to.
Latest Taxon code	If the species is a synonym of another species, this field will contain the unique species code of the most current name. This will only differ from the Taxon Code if the name referenced in Taxon Name is itself a synonym of another species.
Latest Taxon	If the species is a synonym of another species, this field will contain the most current scientific name by which this species is known.
External SpeciesID	Where another Organisation lists the species under a different unique code.
PATN Label	A unique eight-character code generally made up of the first four letters of the Genus and the first four letters of the Species. Used to allow statistical analysis of Flora surveys data to be undertaken.
Genus Name	The Genus name.
Species Name	The Species name.
Subspecies Rank	The Subspecies rank.
Subspecies Name	The Subspecies name.
Is Hybrid	If the species is a hybrid (i.e. the offspring of genetically different parents, usually applied where the parents are of different species).
Hybrid Rank	If the species is a hybrid, the rank of the parent taxa.
Is Cultivar	If the species is a cultivar (i.e. a variety developed in cultivation).
Cultivar Rank	If the species is a cultivar, the rank term.
Authority	The name of the person responsible for describing the taxon.
Family Name	The Family name.
Order	The Order name.
Class	The Class name.
Synonyms	Any other scientific names by which this species has been previously known.
Taxonomy	The taxonomic reference from which the details of this species taxonomy were obtained (e.g. taxonomic website, scientific journal).
Common Name	The main common name by which this species is known.
Other Common Names	Any other common names by which this species is known.
Bio Status Name	The species' biological status in NSW.
General Type	The general category to which the species belongs.

Field	Description
TSC Act* *Note while the field label in BioNet Atlas still references the TSC Act, the values refer to the Biodiversity Conservation Act 2016.	If the species is listed under the <i>Biodiversity Conservation Act 2016 (BC Act)</i> , one of the following legal status listings will display; <ul style="list-style-type: none"> • E – Endangered • E2 - Endangered population • E4 - Presumed Extinct • E4A - Critically endangered species • V - Vulnerable
Date Listed	If the species is listed under the BC Act, the date the species was gazetted.
Commonwealth Status	If the species is listed under the <i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i> , one of the following legal status listings will display; <ul style="list-style-type: none"> • CD - Conservation dependent • CE - Critically endangered • E – Endangered • V – Vulnerable • X – Extinct • XW - Extinct in the wild
CITES Status	The <u>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</u> is an international agreement between governments. Listing is either; <ul style="list-style-type: none"> • Appendix I • Appendix II • Appendix III
NPWS Status	If the species is listed under Schedule 6 of the <i>Biodiversity Conservation Act 2016</i> , the following legal status listings will display; <ul style="list-style-type: none"> • P – Protected Plants
Sensitivity Class	If the species is listed under OEH's <u>Sensitive Species Data Policy</u> , one of the following will display; <ul style="list-style-type: none"> • Sensitivity Class 1 • Sensitivity Class 2 • Sensitivity Class 3
NPWS Flowers	A subset of protected plants, as listed under Schedule 6 of the <i>Biodiversity Conservation Act 2016</i>
NPWS Foliage	A subset of protected plants, as listed under Schedule 6 of the <i>Biodiversity Conservation Act 2016</i>
Extent type	Coding pertaining to species identified in Rare or Threatened Australian Plants. See Briggs, J.D. and Leigh, J.H. (1995) <i>Rare or Threatened Australian Plants, Revised Edition</i> , C.S.I.R.O Publishing, Victoria.
Adequacy type	Coding pertaining to species identified in Rare or Threatened Australian Plants. See Briggs, J.D. and Leigh, J.H. (1995) <i>Rare or Threatened Australian Plants, Revised Edition</i> , C.S.I.R.O Publishing, Victoria.
Threat type	Coding pertaining to species identified in Rare or Threatened Australian Plants. See Briggs, J.D. and Leigh, J.H. (1995) <i>Rare or Threatened Australian Plants, Revised Edition</i> , C.S.I.R.O Publishing, Victoria.

2. To search on another species, click on 'Search again' (bottom right of screen). You will be returned to the 'Species Maintenance Search' page.

Creation and edits of species codes are managed by the BioNet team. For workflow, refer to 'Part G Admin functions'.

3.2 'Codes'

The 'Codes' module allows you view access to the full list of values for all available fields (other than species codes) – for example, codes for observation types, breeding types and geology.

Note that this is the full listing of codes for use across all BioNet Atlas modules (i.e. 'Species Sightings', 'Flora surveys', 'Fauna surveys' and 'Threatened Biodiversity'). You would only use the 'Codes' menu if you had generated a report and wished to clarify the descriptions for specific 'Codes' (e.g. you wanted to confirm the meaning of letters in the observation type column).

Only the BioNet team is able to edit the codes.

To search on an existing code:

1. Click on the 'Codes' menu on the top bar. A 'Code Maintenance' search screen will display (see Figure 3.5).

Figure 3.5 'Codes' menu item and 'Code Maintenance' search

2. Enter all (or part) of a 'Search class' (e.g. observation) to search on all classes that contain that value. All 'Classes' that contain your search phrase will appear in the result list (see Figure 3.6).

Class	Description	
56	Observation Type	Select

Figure 3.6 Results of the 'Code maintenance' search

3. To display all available values for a specific 'Class' (e.g. values for 'observation' would include 'observed', 'heard call' and 'scat'), click on 'Select' (located in the right-hand column). The results will display as shown in Figure 3.7. Note that only 10 values are displayed per page.

Results 1-10 of 28

Code Name	Description	Code Value	
A	Stranding/beached	99	
B	Burnt	99	
C	Cat kill	99	
D	Dog kill	99	
E	Nest/roost	99	
F	Tracks, scratchings	99	
FB	Burrow	99	
G	Crushed Cones	99	
H	Hair, feathers or skin	99	
I	Subfossil/Fossil Remains	99	

1 2 3

Figure 3.7 Available values for a 'Class'

4. To view all values for each field class, click on the respective page numbers.

Creation and edits of species codes are managed by the BioNet team. For workflow, refer to 'Part G Codes Maintenance'.

Part B ‘Species Sightings’

B.1 Background to the ‘Species Sightings’ data collection

The ‘Species sightings’ data collection is primarily accessed via two modules:

- ‘Species sightings search’ module is used to search on records across
 - ‘Species sightings’
 - ‘Flora surveys’
 - ‘Fauna surveys’.
- ‘Species sightings’ module is used to manually enter new sightings and open existing individual sightings to view and edit. Note that flora and fauna survey records can be viewed and edited via this module, as well as in the relevant survey module.

B.1.1 Where do the records come from?

The flora and fauna records in BioNet Atlas come from various sources including:

- Office of Environment and Heritage staff
- data submitted by ecological consultants, research scientists, and others (as part of the scientific licence procedure)
- data provided by other agencies, such as Forests NSW
- historical reports
- the general public.

B.1.2 Who uses the data?

The records in BioNet Atlas are used by a wide variety of people, including:

- state and Commonwealth government departments for conservation planning and land management
- local government agencies and local land services for planning purposes
- consultants undertaking environmental impact assessments
- land holders undertaking development clearing or private native forestry application
- academics and researchers working in particular areas or on particular species
- students carrying out school projects
- people who wish to know more about species occurring in their local area.

BioNet Atlas serves as the portal for supplying NSW government-held information to biodiversity informatics initiatives, such as the Commonwealth’s Terrestrial Ecosystem Research Network (TERN) and the Atlas of Living Australia (ALA).

B.2 Limitations of data available via the ‘Species sightings search’

When accessing data from the Atlas, it is important to be aware of a number of limitations around the data.

B.2.1 BioNet Atlas is not comprehensive

Data in BioNet Atlas, while extensive, is by definition patchy and as such will not provide you with the full distribution of a species. Except in areas where comprehensive survey information has been incorporated into the database, the search results for a particular area are based on a mix of reported sightings. In the case of systematic flora surveys, please do not assume that all surveys provide comprehensive floristics data as some surveys may involve rapid targeted assessments only.

B.2.2 Data collection is often biased

Some areas are particularly poorly represented e.g. there are relatively few records for flora species in western NSW, and there are relatively few records across the state for fauna or flora sightings on private land. Sightings may follow patterns of human movement, such as along roads, and contributors (not bound by the requirements of a Scientific Licence) can often focus their efforts on recording threatened or rare species. As a result, common and introduced species can be under-represented.

B.2.3 Data are not necessarily an accurate representation of current abundance

The number of recorded sightings for a species does not necessarily correspond to the actual abundance of that species in New South Wales. A lack of sightings of a species at a particular location does not necessarily indicate its absence, just the same as multiple records of a species at a location doesn't necessarily mean the species is abundant (e.g. could be a single plant recorded on multiple dates by different people, with slightly different coordinate readings).

Records are a mix of both historical and current data, and as such, are not intended to be a current snapshot for an area or species.

B.2.4 The accuracy of individual locations vary

The 'accuracy' field in BioNet Atlas refers to how precisely the coordinates reflect the exact location of the species sighting. Due to the differing methods to collect records, there is variation in the accuracy of the location at which records are collected. The locations of some species are collected via a Global Positioning System (GPS) and will therefore be accurate to 10 to 50 metres. While some records collected outside of the Scientific Licence process (such as species lists for properties, or historical records from published documents) can be quite coarse.

B.2.5 BioNet Atlas does not contain certain types of information

BioNet Atlas is a database of the presence of individual species so does not record or report on species absence (except for survey sites recorded in the survey modules of Atlas).

With the exception of records that are tagged as being part of an Endangered Population, information on entities other than species (i.e. threatened ecological communities and key threatening processes) are stored in the 'Threatened Biodiversity' module of BioNet Atlas. While these details are available via the 'Species sightings search' module, individual records of communities and threatening processes cannot be entered.

B.2.6 BioNet Atlas is not guaranteed to be free from errors

BioNet Atlas may contain errors. If you suspect an error in any BioNet Atlas record, please notify the [BioNet team](#) by supplying the unique 'Sighting key' and details regarding the field in question (e.g. species name, location description/coordinates).

B.2.7 Taxonomic details may not be current

Taxonomic accuracy will also be affected by the date the data was recorded. BioNet Atlas provides an up-to-date view of taxonomic changes by assigning out of date synonyms to current species. This situation has been dealt with by the use of two species columns; Species name (species as entered by observer) and Assigned name (current taxonomy in BioNet Atlas). If the species has not been re-classified, then Species name and Assigned name will be the same. If re-classification has occurred, then there will be a difference between the two columns. However, note that where taxonomic revision leads to a splitting of one taxon into more taxa then it is not possible to simply assign all records at the taxon level. In this instance, determining the appropriate name to apply is more difficult. In instances where the split taxa have disjunct distributions this can be dealt with by updating individual records. However, where this is not the case then updating to current taxonomy may not be possible. This will be problematic for older datasets.

4. 'Species sightings search'

View and edit functions in this module are available to users as outlined in Table 4.1.

Table 4.1 Access to the Species Sightings search module by User Role

Func.	Public	Regist.	Sens. Spp. Data Lic.	Sens. Spp. Data Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	N	Y	Y	Y	Y	Y	Y	Y
Edit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. For public users, select BioNet Atlas search (see Section 2.2.1 Public login). Note that while registered users access the same data as provided via the public search, they can also access the information via the secure page.
2. For holders of a Sensitive Species licence and OEH staff users, select 'Species sighting search' from the top menu of BioNet Atlas after logging in (see Section 2.2.1 Sensitive Species licensed access or Section 2.2.2 Access for OEH staff, and Figure 4.1).

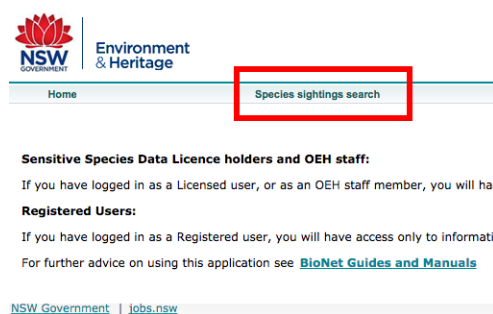


Figure 4.1 Link to 'Species sighting search' for licensed users and OEH staff

4.1 Search criteria

Note the info callout (question mark) to the left of each step. Click on this for further details

4.1.1 Species or group

To search by a species or group of species:

1. Select one of 'all entities', 'animals', 'plants', 'fungi', 'communities', 'threats' or 'endangered populations'.
2. To search for a specific species or group of species, enter the search term as free text (see Figure 4.2). Select 'Go', which will open another screen showing the list of options. Select one (see Figure 4.3). The selected term will appear under the search box beside 'term selected'.

1. Which species or group?

All entities
 Animals
 Plants
 Fungi
 Communities
 Threats
 Endangered populations
 Search for a species or group of species (e.g. birds)

Search for term

birds

Term selected: _____

Figure 4.2 Entering free text for a species or group

Close

Species

Select one from the list below

[Spotted Catbird] *Common Name* ; Ailuroedus crassirostris maculosus

Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners *Manorina melanocephala* *Threat*

Albert's Lyrebird *Common Name* ; Menura alberti

Apostlebird *Common Name* ; Struthidea cinerea

Australasian Figbird *Common Name* ; Sphecotheres vieilloti

Bellbird Vine *Common Name* ; Melodinus guilfoylei

Bird Orchid *Common Name* ; Chiloglottis anaticeps

Birdlime Tree *Common Name* ; Pisonia umbellifera

Bird-of-paradise Shrub *Common Name* ; Caesalpinia gilliesii*

Birds *Common Name* ; Aves

Figure 4.3 Species list pop-up

4.1.2 Legal status

To search by legal status (see Figure 4.4):

1. Select 'all records'.
2. Select 'records that fall under one or more categories'. Then select the category(ies) you would like to search.

2. Legal status?

All records
 Select records that fall under one or more categories

Species categories

Threatened in NSW
 Threatened Nationally
 Protected in NSW
 CAMBA
 JAMBA
 ROKAMBA
 Exotic
 Native

Figure 4.4 Searching by 'legal status'

4.1.3 Area

To search by a predefined geographical area:

1. Select 'Entire area' if you do not wish to limit the search by area.
2. Select 'Select a geographic area' if you wish to search for a specific geographic area. This will reveal a dropdown menu (see Figure 4.5).

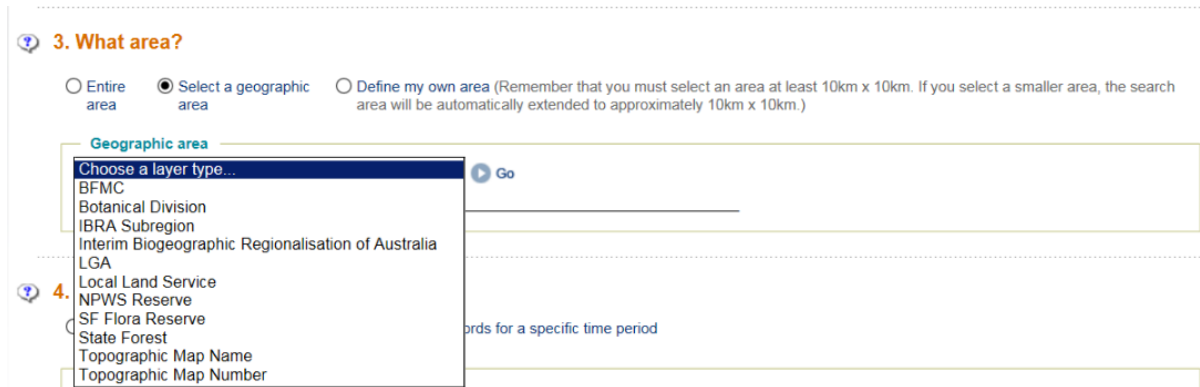


Figure 4.5 Searching by predefined geographic areas

3. In the resulting pop-up for that Geographic area, select an area from the layer type.

To use a customised search area:

1. Select 'Define my own area'. Clicking this option will take you to the BioNet Atlas Spatial Viewer (Figure 4.6).
2. Once the BioNet Atlas Spatial Viewer is open, you can zoom in and out using the plus and minus icons on the top left hand of the map and pan using your mouse.
3. Select your extent by either
 - a. Click on the 'Select Extent' button from the top left corner above the map. Then use your mouse to draw an area on the map.
 - b. Enter coordinates into the 'North', 'South', 'East' and 'West' fields. Note that only Geographic coordinates (Latitude, Longitude) are allowed. After typing in your coordinates, click on the 'Show Extent' button.

Once you have selected your area (either by drawing a box or entering coordinates) click on the 'Use Extent' button. The map pop-up will close and the coordinates for your selected area will be displayed under the 'What area?' section.

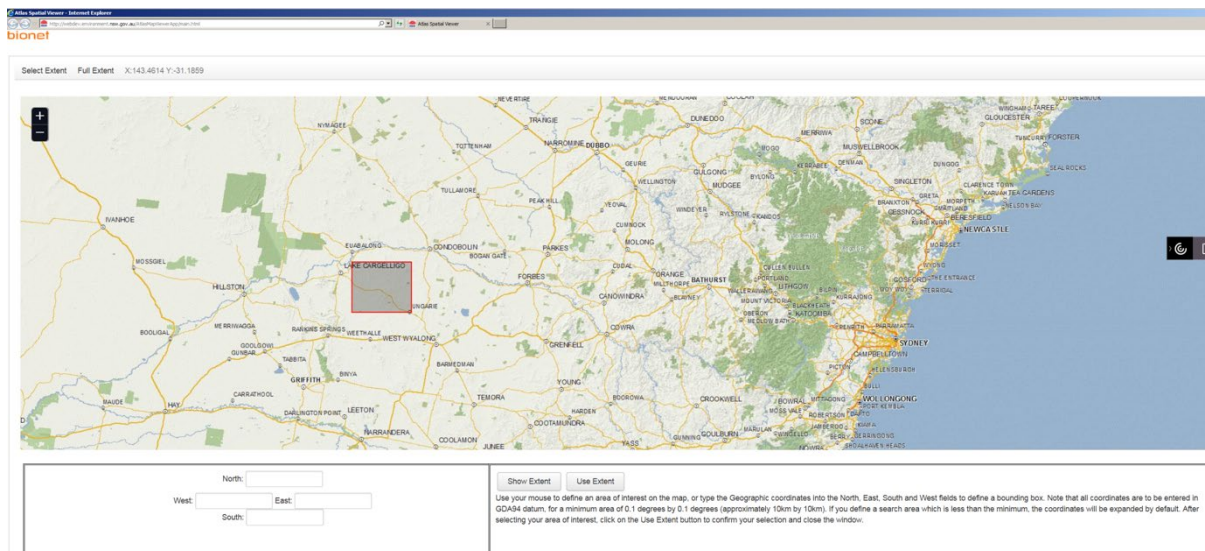


Figure 4.6 Interactive map to enter a customised geographic search area

4.1.4 Period of records

To search for a timeframe of records, do one of the following:

1. Select 'All records'.

- Select a start and/or finish date. Dates can be entered manually in the format day/month/year, or you can use the pop-up calendar (see Figure 4.7).

4. Period of records?

All records
 Select records for a specific time period

Specific time period

Records since 
 Records before 

September, 2017						
Mo	Tu	We	Th	Fr	Sa	Su
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

Today: September 15, 2017

Valid records only
 Valid records (excl. vagrants and populations that are no longer extant)
 Quarantine records only
 All records

Figure 4.7 Searching for 'period of records'

4.1.5 Status

5. Status?

Valid records only
 Valid records (excl. vagrants and populations that are no longer extant)
 Quarantine records only
 All records (incl. quarantine, suspect and rejected records)

Figure 4.8 Searching by 'Status'

All records entered in BioNet Atlas undergo automatic validations and are assigned a 'Status' (refer to Part E Validation and Quarantine for more information). Records that pass validations are considered 'Valid', while records that fail validations and require further review are saved to a 'quarantine' section of the database. To search by 'Status' do one of the following;

- Select 'Valid records only'.
- Select 'Valid records' (excl. vagrants and populations that are no longer extant).
- Select 'Quarantine records only'.
- Select 'All records' (incl. quarantine, suspect and rejected records). Note this option is restricted to OEH staff.

4.1.6 Accuracy

6. Accuracy?

All records
 Records with Accuracy 100m or better
 Records with Accuracy 1000m or better

Figure 4.9 Searching by 'Accuracy'

This step is only available to users with a secure login (i.e. not available via the public search function).

All records are assigned a spatial accuracy (i.e. how accurately the coordinates represent the exact location of the species sighting). To search by accuracy, do one of the following;

1. Select 'All records'.
2. Select 'records with accuracy 100m or better'.
3. Select 'records with accuracy 1000m or better'.

4.2 Search results

At the bottom of the search options page, click on 'Submit search' and a search results page will appear (see Figure 4.10).

Search results

Which species or group?

- All entities
 Animals
 Plants
 Fungi
 Communities
 Threats
 Endangered populations
 Search for a species or group of species (e.g. birds)

Search for term

Enter at least 3 letters and click Go

Term selected: Australian Magpie Common Name; Cracticus tibicen

1
2
3

Search criteria: Internal Report of all Valid Records of Australian Magpie (Species: Cracticus tibicen) returned a total of 144,700 records of 4 species. Report generated on 17/05/2018 1:04 PM.

Displaying 1-4 of 4 species below

To map records for individual species, select up to 5 species then click "view map".
To map all records, click on "view map" (without selecting any species first).

	Common name	Scientific name	Map [Clear all]	NSW status	Comm. status	No. of records
Animalia	Australian Magpie	Cracticus tibicen	<input type="checkbox"/>	P		144,050
Aves		Cracticus tibicen terraereginae	<input type="checkbox"/>	P		8
Artamidae		Cracticus tibicen tibicen	<input type="checkbox"/>	P		641
	[White-backed Magpie]	Cracticus tibicen tyrannica	<input type="checkbox"/>	P		1

Figure 4.10 Search results page

1. To download the search result records, click on 'Download records'. This will open a pop-up box asking you to download the file. Another pop-up will appear asking if you want to open or save the zip file. Note that the text file may be opened and interrogated with GIS software.
2. To save the list, click on 'Save species list'. A pop-up box will appear asking you to save the species list. Select 'download', and a pop-up box will appear asking if you want to open, save or save as the '.xls' (spreadsheet) file.
3. To view the map, either map all records by selecting 'View map' or tick the map box beside the species, for up to five species and select 'View map'. Another page will open, showing a map of New South Wales with all recorded sightings of the selected species (see Figure 4.11).

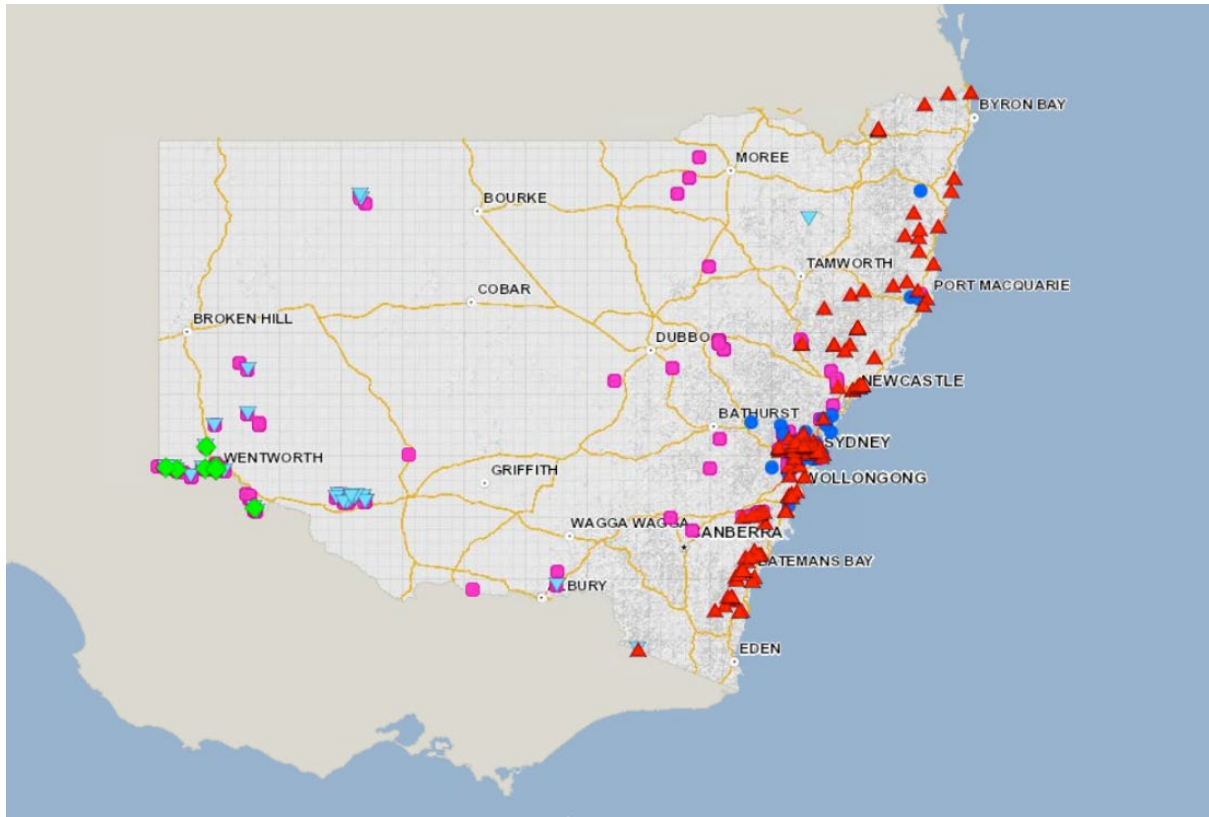


Figure 4.11 Map showing all species sightings within the selected search criteria

5. Species sightings data entry – manual

View and edit functions to enter, view and edit sightings via the ‘Species Sightings’ module are available to users as outlined in Table 5.1.

Table 5.1 Access to the ‘Species Sightings’ module by user role

Func.	Public	Regist.	Sens. Spp. Data Lic.	Sens. Spp. Data Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biodiv.	OEH Admin
View	N	N	N	N	Y	Y	Y	Y
Edit	N	N	N	N	Y	Y	Y	Y

To manually enter systematic survey records, please refer to either section 11 Entering flora survey data or section 16 Entering fauna survey data.

5.1 ‘Species Sightings’ – manual data entry

Records can either be manually entered via the ‘Species sightings’ module or entered into the ‘AtlasDatasheet.xls’ and uploaded to BioNet Atlas via the ‘Import spreadsheet’ module. For details on uploads via the spreadsheet, see Section 6 Species sightings data entry – bulk upload. To manually enter data:

Under the ‘Species Sightings’ dropdown menu, select ‘New sighting’ (Figure 5.1).

Information can be added via six tab folders, though two (‘Reference’ and ‘Graphics’) are optional and one (‘Datasource’) is automatically populated. While you can enter data in any order you wish, you are prompted to edit the ‘Observer(s)’ tab folder first.

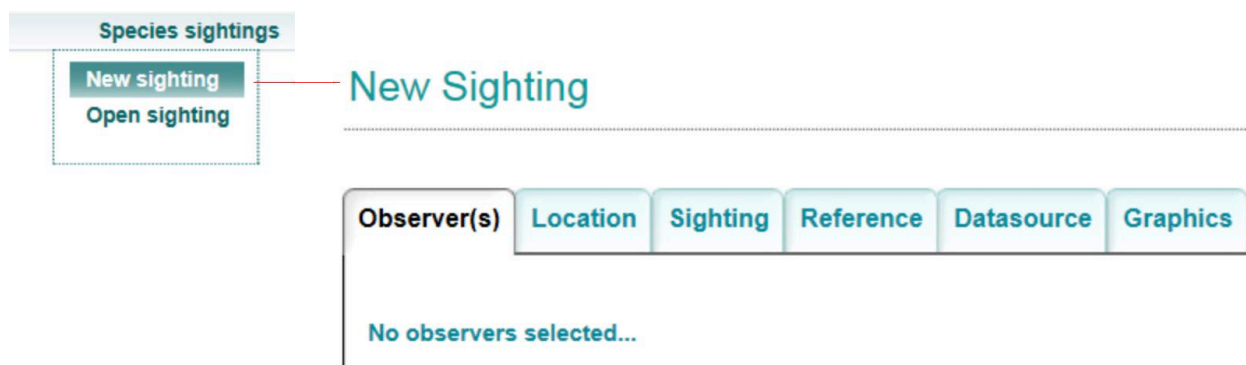


Figure 5.1 ‘New sighting’ option and tabs

5.2 ‘Observer(s)’

5.2.1 Search for an existing observer

On selecting ‘New sighting’, the ‘Search for observer’ pop-up screen will appear (see Figure 5.2).

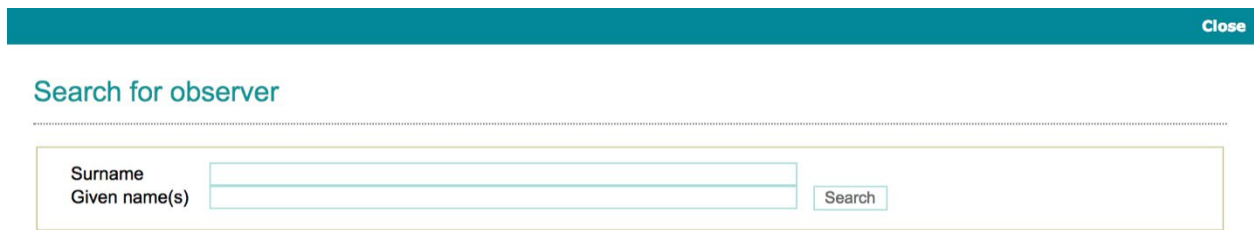


Figure 5.2 'Search for observer' pop-up

The reason for this pop-up is to prompt you to search the database to see if details for the observer have already been created. This avoids creating duplicate entries for the same person. In the 'Observer(s)' tab folder you have the option to:

- search for an existing observer
 - create a new observer
 - update the details of an existing observer
 - add multiple observers, and
 - remove an observer.
1. To see if the observer is already in BioNet Atlas, type in all (or part) of the 'Surname' and/or Given name(s). Note that the database will search on all values that **contain** your search phrase. Searching on 'Surname' 'Green' and 'Given name(s)' 'T' will return all name entries that **contain** both values, rather than only those entries that **begin** with those values (see Figure 5.3).

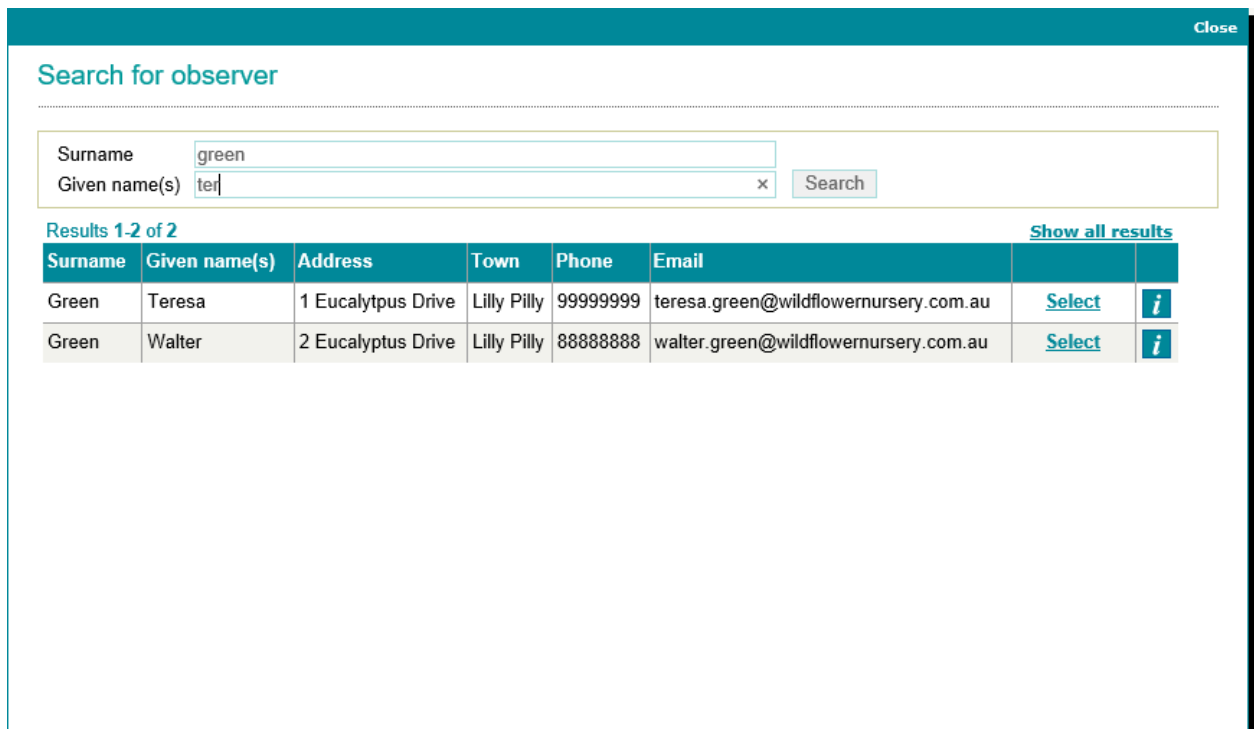


Figure 5.3 Observer search results

You may find that the same observer has been entered multiple times. This is due to three main reasons:

- The result of multiple observer names being created in different NPWS offices when the original BioNet Atlas was a standalone database (i.e. before it being centrally available).
- Insufficient or different contact details were attributed to the original entry, so multiple entries were created for the same observer by different staff.

- Observer names from datasets, including those within the previous vegetation survey databases or licensed datasets such as the Royal Botanic Gardens (RBG) and Forests NSW, are created automatically via a bulk import process.
2. Click on the 'i' button for an individual observer, for a pop-up of all available contact details (see Figure 5.4).

User key:	ODMP18053100
Given name(s):	Teresa
Surname:	Green
Address:	1 Eucalyptus Drive
City:	Lilly Pilly
State:	New South Wales
Postcode:	1111
Phone:	99999999
Email:	Teresa.green@wildflowernursery.com.au
Occupation:	Horticulturalist
Notes:	

Figure 5.4 Pop-up showing contact details for a user

3. If the extra details displayed here confirm the observer to be the one you are searching for, click outside of the information box to close the box.
4. Click on the 'Select' link to choose the observer. The 'Search for observer' pop-up will disappear, and the details of the observer will automatically be added as a row to the 'Observer(s)' tab folder.

If there are multiple entries for the same observer, with the same contact details, select the entry with the most complete and up-to-date information. You can check the database to see the last time the observer details were updated.

5. To check the last time details for an observer were created or updated, click on the 'Review' link in the 'Observer(s)' tab folder. The 'Edit observer' pop-up will appear (see Figure 5.5).
6. In the 'Edit observer' pop-up, a 'History' box will indicate the date the details were last updated, i.e. the 'Date Updated' field (see Figure 5.5). Note that this does not necessarily mean that all details were reviewed and updated at this date. It simply indicates that the details were last saved then, suggesting that at least one field was edited on this date.

Close

Edit observer

Fields marked with an asterisk (*) are mandatory. Update

Observer identification

Observer key:

Surname*: Given names:

Occupation:

Notes:

Contact details

Address:

Town: State: Postcode:

Email:

Contact no. ?

Phone type	Phone number	
Main	999999999	Review Delete
Mobile	0400000000	Review Delete
Main	<input type="text"/>	Add

History

Date Created:
 Created By:
 Date Updated: Date Updated
 Updated By:

Figure 5.5 'Edit observer' pop-up

5.2.2 Create a 'new observer'

If the observer you are searching for is not already stored in the database, then you will need to create a new entry.

1. Close the 'Search for observer' pop-up (if it is open).
2. Click on the 'New' button. A 'New observer' pop-up will appear (see Figure 5.6).

New observer

Fields marked with an asterisk (*) are mandatory. Add

Observer identification

Observer key:

Surname*: Given names:

Occupation:

Notes:

Contact details

Address:

Town: State: Postcode*:

Email:

Contact no. ?

No contact numbers found...

Phone type	Phone number	
Main	<input type="text"/>	Add

History

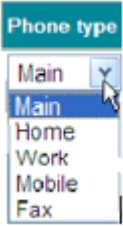
Date Created:
 Created By:
 Date Updated:
 Updated By:

Figure 5.6 'New observer' pop-up

The 'Surname' is the only mandatory field, but you should enter as many details as possible. This both avoids duplicate observer entries being created in future and also assists in OEH staff being able to contact observers in the future should further details regarding sightings be required.

Table 5.2 lists descriptions and required formats for each of the fields in the 'New Observer' pop-up. Mandatory fields are marked with an asterisk.

Table 5.2 Observer tab folder fields

Field	Description (example)	Format
Observer key	A code automatically assigned (on saving) to each observer created.	N/A Auto-populated, protected from edits.
Surname*	Observers' surname	Free text, up to 60 characters.
Given names	Observers' given name	Free text, up to 60 characters.
Occupation	e.g. Scientist	Free text, up to 40 characters.
Notes	Any additional notes regarding the observer, such as experience with species identification, qualifications and alternate mailing address etc.	Free text, up to 500 characters.
Address	e.g. 15 Researcher Lane	Free text, up to 50 characters per line.
Town	e.g. Grasslands	Free text, up to 30 characters.
State	e.g. NSW	Select from dropdown list.
Postcode	e.g. 2658	Integer, 4 digits.
Email	e.g. user.scientist@gmail.com	Free text, up to 75 characters.
Phone type	The type of contact number, as listed in the dropdown list.	Select from dropdown list.
		
<p>Note that details can be stored for multiple phone types.</p>		
Phone number	e.g. 0445874155	Free text, up to 30 characters. (After adding the phone number for each phone type, always click on the 'Add' link (located to the right of the Phone number field) to save the details of each contact number. Clicking on the 'link' button (located in the top right corner of the Observer pop-up), without first clicking on the 'Add' link, will result in the last entered phone number not being saved.)

Field	Description (example)	Format
Date created	The date and time the observer details were first entered into the database.	N/A Auto-populated, protected from edits.
Created by	The name of the OEH officer who entered the observer.	N/A Auto-populated, protected from edits.
Date updated	If edits have been made to the observer since it was originally entered, the date and time that the observer was last re-saved.	N/A Auto-populated, protected from edits.
Updated by	The name of the OEH officer who edited / re-saved the observer.	N/A Auto-populated, protected from edits.

* Indicates mandatory field

- Once all observer contact details have been entered, click on the 'Add' to save the observer details.
- The 'New observer' pop-up will disappear, and the details inserted as a line in the 'Observer(s)' tab folder. If you attempt to create a new observer entry with a 'Surname' and 'Given name(s)', that already exist in the database (regardless of what has been entered into the other fields), a warning message will appear at the top of the 'New observer' pop-up.

If you are unsure whether the observer, you are entering is exactly the same person as the observer details already created in BioNet Atlas:

- Close the 'New observer' pop-up.
- Click on 'Search' in the 'Observer(s)' tab folder, then search and review the details for the existing entry (or entries) with the same name.

If you are certain that you need to create this new observer (either because it is a different person, or you are unsure if the existing entry is the same person):

- Click on 'Continue' to save the new observer entry.

5.2.3 Update the details of an existing Observer

If you note an existing observer has missing or outdated details, you can update these details. Note that if you are unsure if the observer entry is the same person that you are referring to (e.g. you are entering a record for a 'Bob Smith' and you notice there is an observer entry for a 'B Smith' with no other useful contact info), please do not edit this observer. The existing observer would already be attached to other records and it would be incorrect to apply contact details to a potentially different person. If you are certain of the observer you wish to edit, proceed with the changes:

- Click on 'Review', as displayed in the 'Observer(s)' tab folder. An 'Edit Observer' pop-up will appear (see Figure 5.7).
- Edit the fields as necessary.

Fields marked with an asterisk (*) are mandatory.

Observer identification

Observer key: ODM18053100

Surname*: Green Given names: Teresa

Occupation: Horticulturalist

Notes:

Contact details

Address: 1 Eucalyptus Drive

Town: Lilly Pilly State: NSW Postcode: 1111

Email: Teresa.green@wildflownursery.com.au

Contact no. ?

Phone type	Phone number	
Main	99999999	Review Delete
Mobile	0400000000	Review Delete
Main		Add

History

Date Created	31/05/2018 12:06:36
Created By	Deyarne Plowman
Date Updated	31/05/2018 12:06:36
Updated By	Deyarne Plowman

Figure 5.7 'Edit observer' pop-up

If you need to edit any values in the 'Contact no.' box:

1. Click on the 'Review' link (to the right of the phone number) to start editing.
2. Once edits have been made, click on 'Update' to save the changes, or click on the 'Cancel' link to cancel the changes.
3. To delete a contact number, click on 'Delete'. A warning message will appear to confirm you wish to delete the contact number.
4. Click on 'OK' if you are sure you want to delete the contact number.
5. Once all edits have been made, click on 'Update' to save your changes.
6. A pop-up window may appear advising you that changes you make to the observer details are linked to all other sightings that this observer has been assigned to. Click on 'OK'.

5.2.4 Add multiple observers

To add more than one observer:

1. Click on existing entries for the observer, or click on the observer entry button to search for or to create a new observer entry.
2. Repeat steps 5.2.1 search for an existing observer and 5.2.2 create a new observer as appropriate until all observers have been added.
3. If you attempt to add an observer that you have already selected, an error message will appear. Note that this error message is based upon the unique observer key, as opposed to the surname and given name(s) fields. So, if for example, there were two entries of the same observer, you would be able to add each of these once without the database detecting an error. However, if you were to attempt to enter the same unique observer twice, an error message would appear and prevent you from adding the observer the second time.

5.2.5 Remove an observer

If you add an observer to your record by mistake, you can remove the name from the 'Observer(s)' tab folder. Note that this does not mean that you are deleting the observer from the database, simply that you are detaching the observer from your specific sighting.

If you have added an observer in error:

1. Click on 'Remove' to remove the observer from the list. A pop-up will appear.
2. Click on 'OK'.

After the observer(s) have been entered into the 'Observer(s)' tab folder, you are now ready to enter the location details.

5.3 'Location'

1. Click on the 'Location' tab folder, located on the tab menu (see Figure 5.1). A 'New Location' pop-up box automatically appears (Figure 5.8).

Figure 5.8 'New location' pop-up

In the 'Location' tab folder you have the option to:

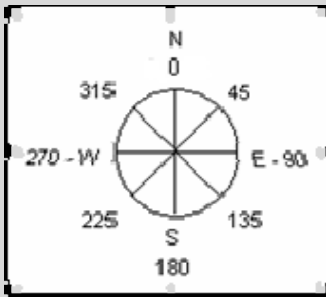
- create a new location
- search for an existing location
- update the details of an existing location
- remove a location.

5.3.1 Create a new location

Table 5.3 lists descriptions and required formats for each of the fields in the 'Location' tab folder.

Table 5.3 Location tab folder fields

Field	Description	Format
Location Key	A code automatically assigned to each unique location.	N/A Auto-populated, protected from edits.
Description*	Detailed description of the geographic location, such as place name, street, nearest cross-street, town, landmark or reserve.	Free text, up to 500 characters.
Datum*	Defines the coordinate system. Refer to the Geoscience Australia website for an explanation of datums.	Select from dropdown list.
GPS	Whether a Global Positioning System (GPS) was used to obtain the coordinates.	Tick the check box.
Coordinates*	<p>Only one coordinate system needs to be supplied. Either;</p> <ul style="list-style-type: none"> • Projected Coordinate System (Zone, Easting and Northing) • Geographic Coordinate System (Latitude and Longitude). <p>Enter the Coordinates in either coordinate system, as detailed below:</p>	
<i>Projected coordinate system:</i>		
Zone		Select from dropdown list.
Easting	The reference in metres, measured east of an arbitrary origin (also referred to as the x-coordinate).	<p>A six-digit number, with up to four decimal places.</p> <p>Note that regardless of how many decimal places are entered, the record after saving will display no decimal places.</p>
Northing	The reference in metres, measured north of an arbitrary origin (also referred to as the y-coordinate).	<p>A seven-digit number, with up to four decimal places.</p> <p>Note that regardless of how many decimal places are entered, the record after saving will display no decimal places.</p>
<p>Geographic Coordinate System: Note that you can enter Latitude/Longitude in:</p> <ul style="list-style-type: none"> • Decimal degrees • Degrees, minutes, seconds • Degrees, decimal minutes. 		
Latitude Degrees	To enter decimal degrees, enter the full value here.	
Longitude Degrees	To enter decimal degrees, enter the full value here.	>/= 138 and </= 162.

Field	Description	Format
Latitude Minutes		Number, between 0 and 60.
Longitude Minutes		Number, between 0 and 60.
Latitude Seconds		Number, between 0 and 60.
Longitude Seconds		Number, between 0 and 60.
Original unit type*	Identification of the original coordinate system the coordinates were entered in.	Automatically populated.
Accuracy*	How accurately the coordinates represent the exact location of the species (in metres). For example, a value of 100 would mean that the location is accurate to the nearest 100m.	Integer, ≥ 1 and $\leq 100,000$, with up to four decimal places.
Geology type	Based on the lithological types from McDonald, R.C. et al (1984) <i>Australian Soil and Land Survey</i> field handbook. Inkata Press.	Select from dropdown list.
Structural formation	Defined by growth form and crown separation (equivalent to the Specht classification system), as defined in McDonald, R.C. et al (1984) <i>Australian Soil and Land Survey</i> field handbook. Inkata Press. Note that where an area lacks native vegetation, additional categories are provided (e.g. Urban, Grazing land, Open ocean).	Select from dropdown list.
Vegetation formation	As defined in Keith, D. (2004) <i>Ocean shores to desert dunes: the native vegetation of New South Wales and the ACT</i> . NSW Department of Environment and Conservation, Hurstville.	Select from dropdown list.
Confidence	Confidence in the assessment of vegetation formation.	Select from dropdown list.
Slope of area	Measured in degrees, from the horizontal.	Integer, between 0 and 90.
Aspect of area	Measured in degrees, starting from zero as North and then going in a clockwise direction. E.g. East = 90. 	Integer, between 0 and 359.
Altitude	The height of the location, in metres, from sea level.	Integer, ≥ 0 and ≤ 2500 .
Notes	Any additional notes regarding the location that do not fit within any of the other existing (location related) fields.	Free text, up to 500 characters.

Field	Description	Format
Date created	The date and time the location was first entered into the database.	N/A Auto-populated, protected from edits.
Created by	The name of the OEH officer who entered the location.	N/A Auto-populated, protected from edits.
Date updated	If edits have been made to the location since it was originally entered, the date and time that the location was last re-saved.	N/A Auto-populated, protected from edits.
Updated by	The name of the OEH officer who edited/re-saved the location.	N/A Auto-populated, protected from edits.

* Indicates mandatory field

How BioNet Atlas stores coordinates

BioNet Atlas stores coordinates of all locations in decimal degrees (GDA94). Meaning if for example, you entered projected coordinates in AMG's (i.e. AMG Easting/Northing), on saving the location the database will convert the values into Geographic coordinates in GDA94 (i.e. GDA94 Latitude/Longitude) and this value is what is stored in the database. This GDA94 value is then used to obtain the value for projected coordinates (Easting/Northing) in GDA94, which is displayed in the projected coordinates box. Note that while all values will ultimately display in GDA94 datum, the 'Original unit type' field will always display the system in which the coordinates were initially entered, so it will be clear which datum and coordinate system the original coordinates were.

1. Enter details into the 'New location' pop-up.
2. To save the 'New location' details, click on 'Add'. If any mandatory fields are incomplete or filled in with erroneous values, an error message will appear at the top of the 'New location' pop-up advising you of the specific error.
3. Once you have finished entering the location details, click on 'Add' to save the location. The 'New location' pop-up closes, and the details are visible with the 'Location' tab folder. In addition to the values you entered, several fields are now automatically populated (see Figure 5.9).

Location Key
LDMPO2040503

Description
A small tributary of the Kowmung River north of Roots Ridge track where lost campers were rescued Specified Map No: 8929-4-N Specified Reserve: Kanangra-Boyd NP

Georeference
GDA94 GPS Original unit type AMG Coordinates

Projected co-ordinates
Zone 56 Easting 237805 Northing 6232990 Accuracy (m) 1000.0000

Geographic co-ordinates
Degrees Latitude Longitude
Minutes 0 9
Seconds 39.6 39.1
-34.010990780 150.160858220

Location attributes
Geology type Sandstone
Structural formation Open forest
Vegetation formation:
Confidence:
Slope of area:
Aspect of area:
Altitude 400

History
Date created 05/04/2002 15:48:55
Created by Deyame Plowman
Date Updated 05/04/2002 15:49:14
Updated by Atlas Conversion

Calculated Area(s)

Layer Type	Area Name
LGA	OBERON
Reserve	Kanangra-Boyd NP
Mapsheet Number	8929 - BURRAGORANG
Mapsheet Number	8929-4-N - YERRANDERIE
CMA	Hawkesbury-Nepean
CMA Subregion	Hawkesbury/Nepean - Kanangra
Bioregion	South Eastern Highlands (NSW)
Botanical Division	Central Tablelands
Mapsheet Name	BURRAGORANG (8929)
Mapsheet Name	YERRANDERIE (8929-4-N)

Figure 5.9 'Location' pop-up with completed information

In Figure 5.9, the:

- 'Location Key' is a unique value which is automatically populated after saving the new location details.
- StreetMap icon in the Geographic coordinates box. You can click on the StreetMap icon to view the location of the coordinates in OpenStreetMap.
- 'History' box details the date and time the location details were entered into BioNet Atlas, and the staff member who entered the information.
- 'Calculated Area(s)' box lists all the spatial layers that are stored within BioNet Atlas which your coordinates fall within.

5.3.2 Search for an existing location

Only search on existing locations that you have entered. Do not search on an existing location which has been created by someone else and use that location. The reason is that the observer of a particular location may later decide that their coordinates (for the associated species) were inaccurate. If they change the coordinates, all sightings attached to that location (including any that you have since added) will be affected.

If you have previously entered a location into BioNet Atlas and wish to add sightings to the same location, you do not need to re-enter the location details.

To search for an existing location:

1. Close the 'New location' pop-up.
2. Click on 'Search'. A 'Search for location' box will appear (see Figure 5.10).

Search for location

Close

Fields marked with an asterisk (*) are mandatory.

Location key

Description Search

Figure 5.10 Search for location box

3. In the 'Location Search' box, type in either:
 - all (or part) of the 'Location Key' (if you know it)
 - all (or part) of the 'Description'.

The database will search on all locations that contain either value, rather than only those that start with your search value. Typing in a locality, e.g. 'Grafton' will return all location descriptions that contain the word 'Grafton'. Keep in mind that the search word(s) are a string, so the text needs to be written exactly (e.g. searching on 'Grafton Road' will return all description that contains 'Grafton Road', but not 'Grafton Rd', for example).

4. Click on 'Search'. The results list that returns includes the 'Location key' and 'Description' fields (see Figure 5.11).

Where there are multiple locations returned, the first 100 will be displayed in the first page and additional locations are accessed by clicking on the subsequent pages. If more than five pages (i.e. more than 500 locations) were returned, additional pages after the fifth will be displayed as an ellipsis.

5. To show all results in the one page, click on 'Show all results'.
6. To select a location, click on 'Select'. This will automatically close the 'Search for location' pop-up and insert the location into the 'Location' tab folder.
7. Check the details of the location to ensure that this is the correct location. If this is not the correct location, click on 'Search' to search again, or click on 'New' to create a new location.

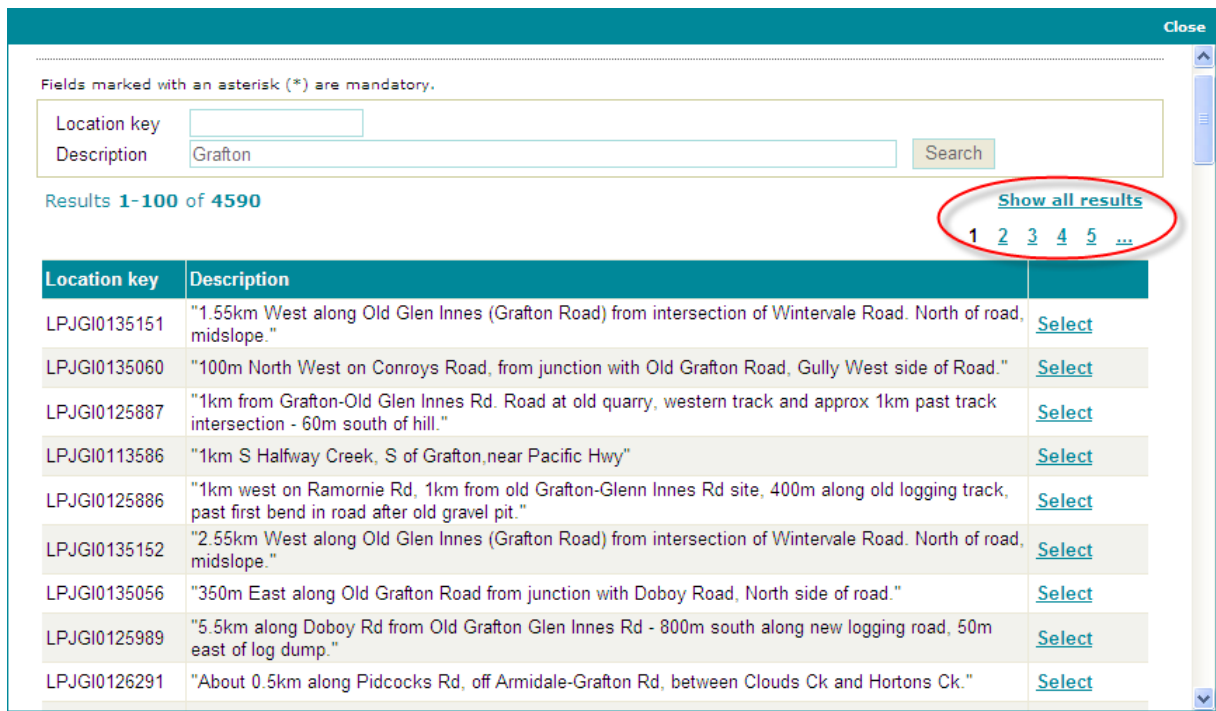


Figure 5.11 Search for location results pop-up

5.3.3 Update the details of an existing location

Important: Only edit locations you have previously entered as they will have existing sightings linked.

If you forgot to enter some location details, or have noticed a typo in your location, you can make changes:

1. Click on 'Review'. An 'Edit location' pop-up will appear (see Figure 5.12).
2. Edit any fields as appropriate.
3. Click on 'Update' to save your changes. A Windows Internet Explorer message pop-up will advise you that the location may be linked to other sightings.
4. If sure, click on 'OK'. The 'Edit location' pop-up will disappear, and the changes displayed in the 'Location' tab folder.

Figure 5.12 'Edit location' pop-up

5.3.4 Remove a location

If you have entered a location in error, i.e. you have searched on an existing location and selected the wrong one, simply replace the 'Location' tab folder with the correct location:

1. Click on 'Search', to search for the correct location.
2. Click on 'New', to enter details into the 'New Location' pop-up. Either option will override whatever location details were previously stored in the 'Location' tab folder.
3. Once details have been entered into the 'Location' tab folder, record the 'Location Key' on your hard copy card/sheet. You are now ready to enter the Sighting details.

5.4 'Sighting' tab

1. Click on the 'Sighting' tab folder. There are two slightly different versions of the 'Sighting' tab folder depending on whether you enter a flora or a fauna sighting. The 'Sighting' tab folder defaults to the **fauna** sighting option (see Figure 5.13), which will be discussed first. The differences in the fields for flora sightings are discussed later.

5.4.1 Fauna sighting

New Sighting

Fields marked with an asterisk (*) are mandatory.

Sighting Key

Add Sighting

Sighting type* FAUNA FLORA

First date* Time 00:00:00

Common name*

Fauna code*

Observation* Observed Estimate

Last date* Time 00:00:00

Scientific name*

Population

Source* Sighting only

Sex

Microhabitat types

- AC Flying above canopy
- BR In/on bridge
- BU In building
- CK Crevice in rock
- CL Crevice in log
- DA Farm/fire dam
- DT In dead tree (stag)
- EW Edge of water
- FC In/on post or stump
- FL Flying within canopy
- GR On around

Breeding types

- Not breeding
- A Adult
- D Distraction display
- E Eggs
- G Gravid
- I Immature (subadult)
- J Juveniles
- L Lactating
- M Nestling
- N Nesting
- P Pre-nant

Notes

External key

File location

Status

Validation flags

History

Date created	Created by	Date Updated	Updated by
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Sightings added today

No sightings entered...

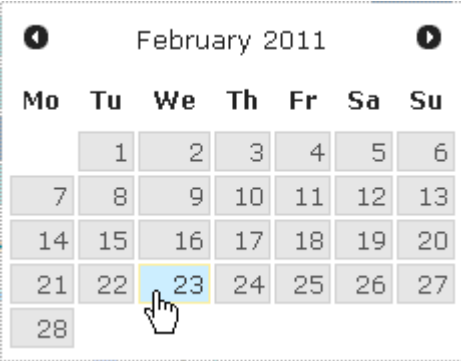
Figure 5.13 Fauna sighting pop-up window

Table 5.4 lists descriptions and required formats for each of the fields in the 'Sighting' tab folder (specific to fauna).

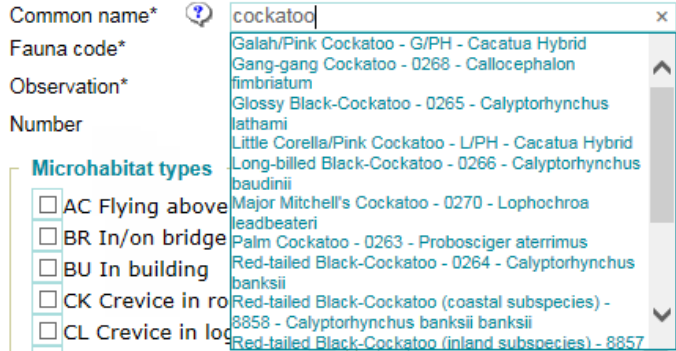
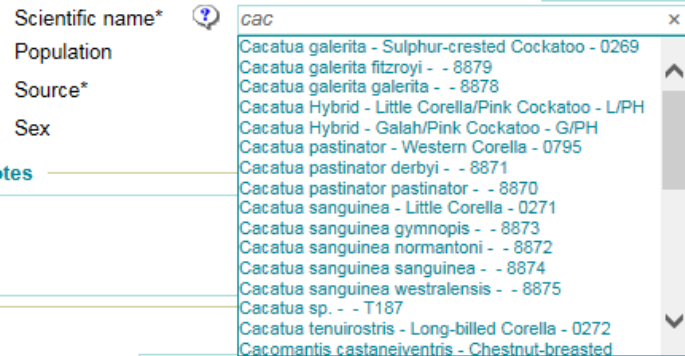
1. Enter details into the 'Sighting' tab folder.

Table 5.4 'Sighting' tab folder fields (for fauna)

Field	Description	Format
Sighting key	A unique code automatically assigned (after saving) to each sighting.	N/A Auto-populated, protected from edits.
Sighting type*	The 'FAUNA' radio button is selected by default.	Radio button selection.

Field	Description	Format
First Date*	The date the species was recorded. You can enter the date by either selecting it from the calendar pop-up, or	dd/mm/yyyy, >/= 01/01/1770.
		
	typing the date in the format dd/mm/yyyy.	
Time	The specific time the species was recorded.	hh:mm:ss Type in, or select from the dropdown menus.
Last Date	Note that once the 'First Date' field has been entered, the 'Last Date' field will automatically be populated with the same value. For species recorded over a period of time (e.g. during a survey conducted over a week, or where an approximate date was given), change the 'Last Date' as necessary, by either selecting from the calendar pop-up or typing over the existing date.	dd/mm/yyyy >/= First Date and </= data of entry.
Time	The specific time the species was recorded.	hh:mm:ss Type in, or select from the dropdown menus.

When entering the species name, you only need to enter **one** of the three available fields (i.e. 'Common name' or 'Scientific name' or 'Fauna code') and the database will automatically populate the other fields.

Field	Description	Format
Common name*	<p>The common name by which the species is known.</p> <p>Type in all or part of the 'Common name' (e.g. Cockatoo) and a selection of common names that contain the word 'Cockatoo' anywhere in the name will display in the dropdown box.</p>  <p>Scroll down through the list to select the appropriate name.</p> <p>Note that not all species will have a common name assigned in BioNet Atlas.</p>	Type in all, or any part, of the name and select from the drop- down list.
Scientific name*	<p>The scientific name by which the species is known.</p> <p>Type in all or part of the beginning of the 'Scientific name'. Note that the dropdown list will only display a selection of those scientific names that begin with the values entered.</p>  <p>Scroll down to select the appropriate species.</p>	Type in all, or part of the beginning , of the name and select from the dropdown list.
Fauna/ Flora code		
Population	<p>Whether the species is part of an Endangered Population (as listed under the BC Act). You will not be able to fill in this field, it will be automatically populated (if applicable) once you save the record.</p> <p>Background to Endangered Populations.</p> <p>The BioNet team maintain a shapefile of species specific endangered population boundaries, based on the descriptions in the Final Determinations from the Scientific Committee. This shapefile is updated at the time of gazettal.</p> <p>On saving your record, the database cross-references the coordinates and species name against this shapefile. If your record falls within the boundary of an endangered population for that specific species, the relevant endangered population code will be populated in this field on saving. Only on re-opening your saved sightings will</p>	N/A Auto-populated, protected from edits.

Field	Description	Format
	you be able to view the endangered population code in the Population field.	
Observation*	For fauna only. Refers to how the species was observed (e.g. observed, heard, scat etc.). This field is populated as 'observed' by default (being the most common observation type). If appropriate, select a different observation type. If more than one observation type was recorded, select the most reliable observation type here and enter additional values in the 'Notes' field.	Select from drop- down list.
Source*	Source distinguishes standard sightings from those held at public or private collections. The default value for this field is set to 'Sighting only'. You only need to change the value if a specimen was taken (i.e. either 'Specimen with public museum or herbarium' or 'Specimen with other collection'), or if there is some uncertainty around the identification, particularly in the case of Anabat records (i.e. 'Sighting – probable ID' or 'Sighting – possible ID').	Select from drop- down list.
Number	The total number of individuals.	Integer, between 1 and 999,999.
Estimate	The accuracy of the 'Number' (e.g. 'exact', 'estimate', 'more than', or 'less than').	Select from drop- down list.
Sex	The sex of the species.	Select from drop- down list.
Microhabitat types	The small-scale habitat (e.g. 'on ground', or 'in tree').	Click in the check boxes to select (or de-select) values.
Breeding types	Details of the breeding status of the species (e.g. 'eggs' or 'nesting').	Click in the check boxes to select (or de-select) values.
Notes	Enter any details regarding the species that could not be entered into any of the other existing fields.	Free text, up to 500 characters.
External Key	Observer's own unique reference number.	Free text, up to 30 characters.
File Location	If the record has been entered from a hard copy report, you could enter the office in which the report has been filed. Include any details regarding the records' physical location, should it need be accessed in the future.	Free text, up to 65 characters.
Status	All records go through a validation process on entry. (See Validation and quarantine for details). This field is automatically populated on saving.	Auto-populated, protected from edits.
Validation Flags	Once a record is saved, it will have been assigned a Status as part of the validation process. If the record fails validation and is saved to the Quarantine section of BioNet Atlas, the reason for this will be displayed in the 'Validation flags' field.	Auto-populated, protected from edits.

Field	Description	Format
Date created	The date (and time) the sighting was first entered into the database.	Auto-populated, protected from edits.
Created by	The name of the OEH officer who entered the record.	Auto-populated, protected from edits.
Date updated	If edits have been made to the record since it was originally entered, the date (and time) that the record was last re-saved.	Auto-populated, protected from edits.
Updated by	The name of the OEH officer who edited/re-saved the record.	Auto-populated, protected from edits.

* Indicates mandatory field

- If a specimen has been lodged at an herbarium or museum, you can assign details as follows:
 - Select the appropriate 'Source' (i.e. either 'Specimen with public museum or herbarium' or 'Specimen with other collection').
 - Click on 'Specimen' (located in the top right-hand corner of the 'Sighting' tab folder). An 'Edit individual details' pop-up will appear (see Figure 5.14).

Figure 5.14 'Edit individual details' pop-up

- Enter details into the 'Edit individual details' tab folder. Table 5.5 lists descriptions and required formats for each of the fields in the 'Edit Individual details' tab folder.

Table 5.5 Edit individual details

Field	Description	Format
Specimen rego*	Unique number assigned by the herbarium or museum. If not yet available, write 'not provided'.	Free text, up to 40 characters
Specimen location*	The name of the institution at which the specimen has been lodged. Note if the institution is not available from the list, contact BioNet team.	Select from the dropdown list.
Length (mm)	The length of the specimen, in millimetres.	Numeric, up to 9,999, with up to two decimal places.

Field	Description	Format
Weight (g)	The weight of the specimen, in grams.	Numeric, up to 9,999, with up to two decimal places.
Field no.	If you have assigned your own unique code for the specimen.	Free text, up to 40 characters.

* Indicates mandatory field

- To save the Specimen details, click 'Add'.
- The links 'Review' and 'Remove' will appear to the right of your Specimen details; additionally, an extra blank line is inserted underneath (see Figure 5.15).

The screenshot shows a web interface titled "Edit individual details" with a "Close" button in the top right. Below the title, it says "Results 1-1 of 1". There is a table with the following data:

Specimen rego	Specimen location	Length (mm)	Weight (g)	Field no.	
NSW12345	The Australian Museum, Sydney	50.5	200	ABC123a	Review Remove
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

Figure 5.15 Data in the 'Edit individual details' pop-up

- If a specimen has been lodged at multiple locations, enter the relevant details and click on 'Add' again. Note that you must click on 'Add' after each new Specimen details are entered. Failing to click 'Add' will result in the last entered Specimen details not being saved to the database.
- Once all Specimen details have been added, close the 'Edit individual details' pop-up.
- If you need to make changes to any of the specimen details you have entered, either:
 - click on 'Review' to make changes to any of the fields
 - click on 'Remove' to remove all reference to the individual details.

5.4.2 Flora sighting

- To enter a flora sighting, click on the flora radio button (see Figure 5.16).

New Sighting

Fields marked with an asterisk (*) are mandatory.

Sighting Key

Add Sighting

Sighting type* FAUNA FLORA

First date* Time 00:00:00

Last date* Time 00:00:00

Common name*

Scientific name*

Flora code*

Population

Observation*

Source*

Number

Estimate

Growth Form

Height(m) (lower) (upper)

Breeding types

- BU Flower Buds
- FL Flowering
- FR Fresh Fruit
- N No Breeding Evident
- OF Old Fruit
- SD Seeds
- SE Seedlings Present
- Y Breeding Present, but not specified

Notes

External key

File location

Status

Validation flags

History

Date created

Created by

Date Updated

Updated by

Sightings added today

No sightings entered...

Figure 5.16 Sighting data entry for a flora sighting

Flora records are entered as for fauna guidelines (see Tables 5.4 and 5.5), with a few variations, as circled above and outlined in Table 5.6. Mandatory fields are marked with an asterisk.

Table 5.6 Sighting tab folder fields (additional/altered fields for flora)

Field	Description	Format
Flora code	A unique code attributed to an individual species, genus or family. Flora codes are maintained by the BioNet team. They are referred to as the Census of Australian Plant Species (CAPS). They are usually based on the names accepted by the RBG and displayed on the PlantNET website though many other published names are also included.	Unique letter/number (see CAPS lists).
Growth habit	Whether the plant is a tree, herb, fern etc.	Select from dropdown list.
Height (lower)	The height (in metres) of the shortest plant.	4-digit number, up to two decimal places. Must be less than the Upper height value.
Height (upper)	The height (in metres) of the tallest plant.	4-digit number, up to two decimal places. Must be greater than the Lower height value.

Field	Description	Format
Breeding types	While this field also applies to fauna, the available values in the flora setting are specific to plants.	Click in the check box to select (or de-select) a value. Note that multiple values can be selected.
Observation*	While this field also applies to fauna, this field is automatically populated as 'flora record'. Note that although there is an option for 'Floristics flora survey', this should never be used here, as it is to be used for records entered via Flora surveys module.	Select from dropdown list.

* Indicates mandatory field

Note: The Microhabitat type and Sex fields do not apply to the Flora setting.

Advice regarding entering synonyms

If you enter a species which is stored in BioNet Atlas as a synonym of another species, the common name and scientific name will automatically display as the latest taxon, but the 'Flora code' will reflect the original species. For example, if you enter a record for *Corunastylis fimbriata*, you will notice that because this is a synonym of *Genoplesium fimbriatum*, the latest taxon *Genoplesium fimbriatum* will automatically overwrite *Corunastylis fimbriata* in the 'Scientific Name' field. However, the 'Flora code' field will store the correct code for *Corunastylis fimbriata*.

At this point, if your record is not from a reference, and you do not wish to alter the dataset to which the record will be saved to or add any graphics you can skip to Section 5.7.2 Save the sighting.

5.5 'Reference' tab

The 'Reference' tab folder is not mandatory and only needs to be filled in if the sighting is being entered from a report such as a journal or book.

1. Click on the 'Reference' tab folder. In the 'Reference' tab folder, you have the option to:
 - create a new reference
 - search for an existing reference
 - update the details of an existing reference
 - remove a reference.

5.5.1 Create a new reference

1. To enter details for a new reference, click on 'New'. A 'New reference' pop-up will appear (see Figure 5.17). Table 5.7 lists descriptions and required formats for each of the fields in the 'Reference' tab folder. Mandatory fields are marked with an asterisk.
2. To save the new reference, click on 'Add'. On successfully saving the reference, the 'New reference' pop-up will disappear, and the details will be stored in the 'Reference' tab folder. A 'Reference key' will be automatically populated.

New Sighting

The screenshot shows the 'Reference' tab of a 'New Sighting' form. The form is organized into four main sections:

- Reference identification:** Includes fields for 'Reference key' (a small grey box), 'Title' (a large text area), 'Author(s)', 'Publisher name', 'Type of publication', 'Year of publication', and 'City of publication'.
- If from a journal or book:** Includes fields for 'Name of book', 'Name(s) of editor', and 'Volume of publication'.
- How reference is used:** Includes fields for 'Details of publication', 'Pages', 'Keywords for article', and 'Location'. There is also a checkbox labeled 'Used in manuscript'.
- Comments:** A large text area for additional notes.

Figure 5.17 New sighting 'Reference' pop-up

Table 5.7 'Reference' tab folder fields

Field	Description	Format
Reference key	A unique code automatically assigned to each sighting.	N/A Auto-populated, protected from edits.
Title*	If the record is sourced from, or included within a report, include the title of the publication.	Free text, up to 500 characters.
Author(s)*	Author(s) of the publication.	Free text, up to 255 characters.
Publisher name	Name of publisher.	Free text, up to 60 characters.
Year of publication*	Year of publication.	Integer, >= 1770.
Type of publication*	Type of publication (e.g. journal, book etc.)	Select from dropdown list.
City of publication	City of publication.	Free text, up to 30 characters.
Name of book	Name of book.	Free text, up to 150 characters.

Field	Description	Format
Name(s) of editor	Name(s) of Editor.	Free text, up to 60 characters.
Volume of publication	Volume of publication.	Free text, up to 30 characters.
Details of publication		Free text, up to 500 characters.
Pages	The specific page numbers where the species record is referenced.	Free text, up to 40 characters.
Used in manuscript		Free text, up to 65 characters.
Keywords for article		Free text, up to 500 characters.
Location	Details on the location of the document, such as the OEH office where the document is stored.	Free text, up to 500 characters.
Comments	Additional details about the reference that could not be included in any of the other fields.	Free text, up to 500 characters.

5.5.2 Search for an existing reference

If you have entered details for a reference previously or wish to search to see if anyone else has created an entry for the specific reference your record is contained in, you can search for this.

1. Click on the 'Search' button. A 'Search for reference' pop-up appears (see Figure 5.18).

Search for reference

Figure 5.18 'Search for reference' pop-up

2. Type in all (or part) of the 'Title' and/or 'Author(s)'. Note that the database will search on all values that contain your search phrase, rather than only those references that begin with each search phrase.
3. Click on 'Search'.
4. In the resulting list of references, click on 'Select' to insert the details into the 'Reference' tab folder. Note that this is the only way you can view the full details of a reference.
5. If you have selected a reference incorrectly, click on 'Search' to search again.

Update the details of an existing reference

You can edit the details of a reference you have previously entered.

1. Click on 'Review'. An 'Edit reference' pop-up will display, allowing you to make any necessary changes.
2. To save the changes, click on 'Update'. A 'Windows Internet Explorer' pop-up will appear advising you that this reference may be linked to other sightings.
3. If sure, click 'OK'.

5.5.3 Remove a reference

As the reference is not mandatory, if you decide that a sighting should not be attached to a reference after all, you can remove the details.

1. To remove details of a reference from your sighting, click on 'Clear'. Note that this is only removing the link between the reference and your sighting (i.e. you are not deleting the reference from the database).
2. If you do not wish to alter the dataset to which the record will be saved to, you can skip to Section 5.7.2 'Save the sighting'.

5.6 'Datasource' tab

While all OEH staff have view access to all records in BioNet Atlas, the ability to enter new records and edit existing records is restricted by which dataset(s) you have access to. When your BioNet Atlas account is created, all OEH staff are given access to the dataset 'OEH Default Sightings' as the default dataset. You can have access to additional datasets, and if appropriate, nominate a different dataset as your default.

These details regarding the dataset to which your record is attached are contained in the 'Datasource' tab folder.

You would only need to view and edit the 'Datasource' tab folder if you wish your records to be assigned to a different dataset (that you have already been given access to). If, for example, you are coordinating a community survey for records of a particular species, you may want all of those records attached to a particular dataset name. Keep in mind that records collected as part of a systematic survey should always be entered via the appropriate survey module.

To view or edit the Dataset:

1. Click on the 'Datasource' tab folder. Note that while there are several fields in this tab folder, the only edits you can make in this tab folder are to the 'Dataset' field.
2. To change the Dataset to which a record is attached, click on 'Search'. A 'Search for datasource' pop-up will display, allowing you to search on all Dataset names.
3. Type in all (or part) of the Dataset name and click on 'Search'.
4. Alternatively, you can also use the wildcard % to search on all datasets that you have edit access to.

Note that the resulting list for your account may appear differently to the example as shown above, depending on which datasets you have been given access to.

5. In the resulting list of datasets, select the appropriate dataset name by clicking on 'Select'. This will close the 'Search for datasource' pop-up and insert the selected dataset name into the 'Datasource' tab folder.

All species sightings (i.e. non-systematic survey records for which OEH are custodian are automatically assigned to the 'OEH Default Sightings' dataset).

If you open an existing sighting;

- Datasets which are managed independently to OEH, such as data from the RBG or Australian Museum are identified as such via the dataset name.
- Records that have been collected as part of a systematic survey are entered into the BioNet Atlas systematic survey modules under a specific survey name, e.g. Small mammal trapping in Royal NP. For these records, the Survey details and Census details are automatically populated upon entry into the survey module.

Note that you should only ever assign a record to a different dataset if you are familiar with the dataset. Contact the [BioNet team](#) to discuss access to datasets or the creation of new dataset names.

5.7 'Graphics' tab

5.7.1 To view or add a graphic:

1. Click on the 'Graphics' tab.
2. To add a new graphic, select 'New'. A 'New graphics' pop-up will appear (see Figure 5.19).

Close

New graphics

Note: fields marked with * are required Save

Photo date*:

Description:
May contain only 500 characters long.

Direction of view (degrees):

Photographer*:

Copyright*:

Copyright contact:

Copyright renewal:

Alt description:

Notes:
May contain only 500 characters long.

Filepath*:
May upload only 8MB per file. Supported file types are .JPG, .GIF, .PNG, .BMP and .PDF types.

Figure 5.19 'New graphics' pop-up

Refer to Table 5.8 for requirements of details to be added. Mandatory fields are marked with an asterisk.

Table 5.8 Fields available in the 'New graphics' pop-up

Field	Description	Format
Photo date*	The date the photo was taken.	dd/mm/yyyy
Description*	Description of the image.	Free text, up to 500 characters.
Direction of view (degrees)	The direction of view (in degrees) that the photo was taken.	Integer, 0 to 360.

Field	Description	Format
Photographer*	Name of photographer.	Free text.
Copyright*	Populated with OEH by default, edit if required.	Free text.
Copyright contact	Name of contact person for copyright details.	Free text.
Copyright renewal	Details of copyright terms.	Free text.
Alt description	Alternative description.	Free text.
Notes	Any additional notes.	Free text, up to 500 characters.
Filepath*	Select the pathway where the image is stored. Note: It is advised to store images on a central share folder (rather than a local or personal drive), should the original image be needed in future.	Up to 8MB. Either .jpg, .gif, .png, .bmp or .pdf.

* Indicates mandatory field

1. Add values to the 'Photo date' to 'Notes' fields as required.
2. In the 'filepath' field, select 'Choose file', find the file on your computer and highlight it. Note the only acceptable file formats are .jpg, .gif, .png, .bmp or .pdf.
3. When done, click on 'Save'.

5.7.2 Save the sighting

Once all of the available details have been entered into each of the tab folders, you can save the sighting.

1. Go to the 'Sighting' tab folder (if you are not already there).
2. Click on 'Add sighting'. Your sighting will **not** successfully save if:
 - o values have not been entered into mandatory fields
 - o incorrect values have been entered
 - o the sighting has been flagged as being a duplicate of an existing sighting.

Missing or incorrect values

Several errors are associated with missing values, where values have **not** been entered into mandatory fields, or where an incorrect value was entered. Follow the error message's instructions to solve this problem.

After resolving the problem, click 'Add sighting' in the 'Sighting' tab folder to save the data.

Potential duplicate

The database has a check to ensure that duplicate sightings are not re-entered. Every time you attempt to save a new sighting, the database checks whether there is an existing record for the same species, same first and last dates and same location coordinates (to within 100 metres). If there is an existing record that matches all three criteria, a pop-up will appear (see Figure 5.20).

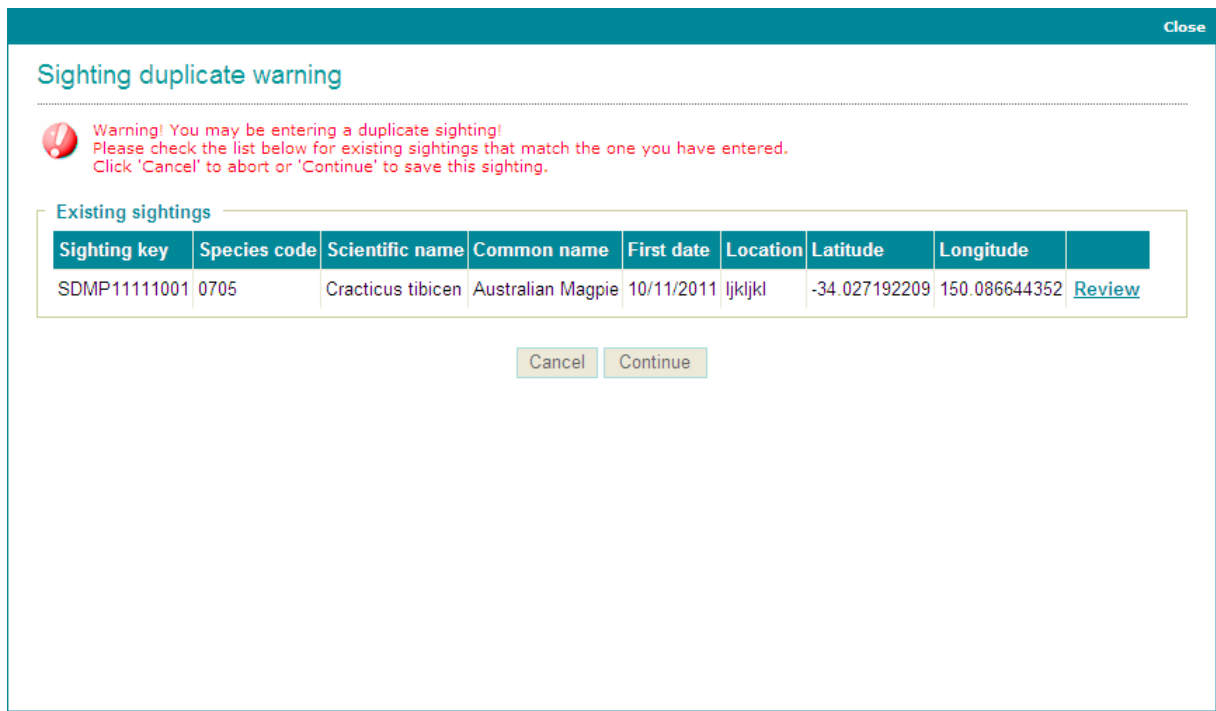


Figure 5.20 'Sighting duplicate warning' pop-up

The 'Sighting duplicate warning' pop-up will list **all** sightings that your record is a potential duplicate of, so there may be more than one listed.

1. To see the full details of the existing sighting, click 'Review'. The existing sighting will open in a new BioNet Atlas window.
2. Review the details of the existing sighting to determine whether the sighting you are trying to save is an exact duplicate, or a valid sighting that just happens to be within 100m (for the same species and date) of the existing sighting.

You now have two options:

- If the species is an exact **duplicate**:
 - Close the extra BioNet Atlas window (i.e. the new window with the existing sighting).
 - Click on 'Cancel'.
 - The 'Sighting duplicate warning' will close. Note that the details you entered are still displayed in the 'New Sighting' tab folders, giving you the option to enter another (new) sighting. To enter your next sighting, either click on 'Clear all' to clear all values to start again, or, if appropriate, edit only those values in the tab folders that are different.
- If the sighting is a **valid** record (that just happens to be within 100m of an existing sighting):
 - Click on 'Continue'.

Note that your sighting will be saved to the Quarantine section of the database (refer to Quarantine advice box, below) for review by the BioNet team.

3. Once your record has no errors, missing values or potential duplicates flagged, it will save successfully, and a pop-up window will display your 'Sighting Key'.
4. Record the 'Sighting key' on your hard copy card/sheet and file the card/sheet appropriately.

Important

If your record fails validation and is saved to the Quarantine section of BioNet Atlas, you will **not** receive a pop-up message advising you of this. To determine if any records you entered have been saved to quarantine, refer to Section 7.2 1.1 Open sightings entered on a particular day to determine if any had been saved to Quarantine.

5.7.3 Entering multiple sightings

After each sighting is successfully saved, the sighting is added to the 'Sightings added today' list (located at the bottom of the 'Sighting' tab folder). The 'Sighting' tab folder is cleared of information, with the exception of the dates previously entered. In addition to this, the values entered into all of the other tab folders are retained. This allows you to enter multiple sightings for the same date, location, observer, reference and datasource, without having to re-enter the information. You have three options when entering additional sightings:

All details are the same

If all details are the same (i.e. same date, location, observer, reference and datasource), then:

1. Enter details into the 'Sighting' tab folder.
2. Click on 'Add sighting' save the new sighting.
3. Repeat this for each sighting for the same date, location and observer.

Some details are different

If any subsequent sightings have different details in any of the tab folders (observer, location, reference or datasource), or a different date, you can change the details by clicking on the appropriate tab folder and searching or creating new details as appropriate:

1. Click on the tab folder where the details are altered and make the necessary changes.
2. Enter the species details into the 'Sighting' tab folder.
3. Click on 'Add sighting' save the new sighting.

Note that this does not change the details for your previous sighting, only **additional** (i.e. new) sightings that are saved with the new details.

All details are different

If you are entering a new sighting for a completely different date, observer and location to that you have previously entered, you can clear all of the values:

1. Click on 'Clear all' to clear values from all tab folders. Note that this does not delete your previous record.

6. Species sightings data entry – bulk upload

All bulk upload of digital files are carried out within the ‘Submit sightings’ option in the Import spreadsheet module. View and edit functions under this option are available to users as outlined in Table 6.1.

Table 6.1 Access to the ‘Import Spreadsheet’ module by User Role

Func	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biodiv.	OEH Admin
View	N	Y	Y	Y	Y	Y	Y	Y
Edit	N	Y (upload)	Y (upload)	Y (upload)	Y (upload)	Y (upload)	Y (upload)	Y (upload + search + import)

6.1 Background to bulk uploads

To facilitate the validation and import of sightings data, BioNet Atlas offers the functionality to submit records online via the ‘Import spreadsheet’ menu. Validations occur both on entry into the custom spreadsheet and upload to the ‘Import spreadsheet’ module, allowing the observer greater input and accountability in ensuring their dataset is incorporated into BioNet Atlas as accurately as possible. The secure upload functionality has enabled faster turnaround times in importing uploaded files by BioNet staff.

The ‘Import spreadsheet’ module allows both ‘Species sightings’ and ‘Systematic surveys’ data to be uploaded to BioNet Atlas, however the upload process and relevant spreadsheet used will vary. For an overview of the required steps and checklist to complete at each step, refer to Figure 6.1 for ‘Species sightings’ and Figure 6.2 for ‘Systematic surveys’.

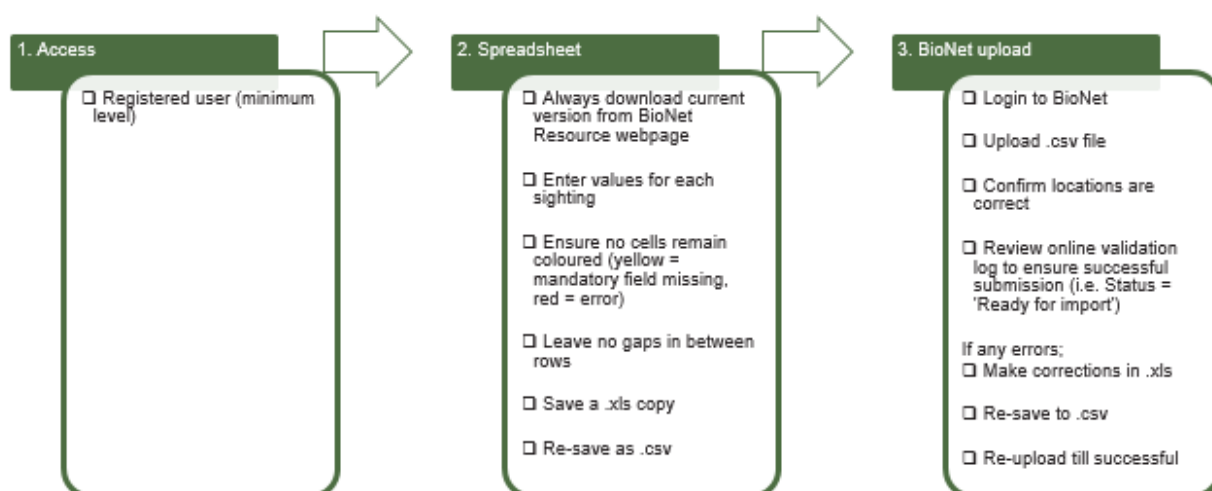


Figure 6.1 Summary workflow and checklist for upload of ‘species sightings’ data into BioNet

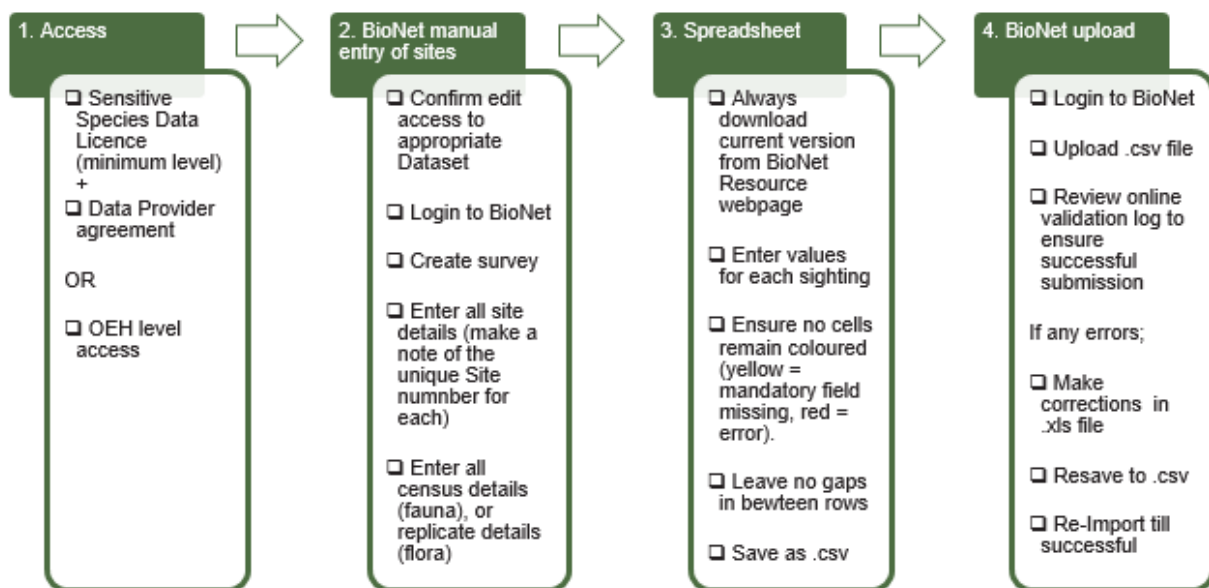


Figure 6.2 Summary workflow and checklist for upload of 'systematic survey' data into BioNet

To enter your records as systematic flora survey data, refer to Figure 11.1 and Figure 11.2 for a summary, and section 12 for detailed instructions on uploading data. To enter your records as systematic fauna survey data, refer to Figure 16.1 and Figure 16.2 for a summary, and Section 17 for detailed instructions on uploading data.

Scientific Licensing requirements

To carry out a flora or fauna survey in New South Wales, a Scientific Licence needs to be entered into between the surveyor and OEH for:

- fauna surveys, where there is the potential to harm protected species, either directly, e.g. through the use of sampling devices such as traps or hair tubes or indirectly e.g. through the accidental transfer of disease into frog habitats
- flora surveys, where samples are taken from protected plants or from threatened flora species, endangered populations or endangered ecological communities (listed under the schedules of the *Biodiversity Conservation Act 2016*)
- surveys proposed on lands gazetted under the *Biodiversity Conservation Act 2016*

It is a condition of this licence that a full report of **all** species records collected during surveys is provided back to OEH for inclusion in the BioNet Atlas database. Where the area to be surveyed is on private land, it is the responsibility of the person who has signed the Scientific Licence intending to carry out the work, to inform the landholder of this condition. Note that some surveys such as bird surveys are non-invasive and therefore will not require a Scientific Licence, though such surveys that include call playback probably will.

Part 1 of the *Reporting requirements* of the Scientific Licence lists the required details and format to record sightings, as well as the process by which records must be submitted. It is a requirement of all S132c licences issued that a full report of the actual work carried out under licence be submitted at the end of the licensing period and before any renewal will be granted. The report must include;

1. details of all animals, plants, materials or activities, collected, captured, observed or undertaken under the licence
2. species identification
3. precise locality description

4. precise geographic coordinates (AMG/MGA or latitude/longitude) including datum, accuracy and whether a GPS was used)
5. date of trapping, observation or collection
6. a list of locations surveyed (including geographic coordinates) must be included for those licences authorising flora and fauna surveys
7. data must be provided at an accuracy of not less than 100m without suitable justification
8. reports must be in the standard OEH Excel format, available at www.environment.nsw.gov.au/resources/Atlas/AtlasDatasheet.xls (XLS 2.7MB)
9. completed reports are to be uploaded online, under a secure login – contact bionet@environment.nsw.gov.au for account details and guidelines
10. failure to submit a valid and full report will delay or prevent the renewal of a licence and may also incur an infringement notice for a breach of licence conditions (\$300)
11. failure to submit a report may be considered sufficient grounds for cancelling a licence

Scientific licensing is managed by the Wildlife Licensing and Management Unit (WLMU) and is a separate agreement from the Sensitive Species Licence (more information on the Scientific Licence conditions can be found at: [Apply for a scientific licence](#)).

Note while data submitted pursuant to a Scientific Licence are generally submitted annually, to coincide with the Scientific Licence renewal, you can submit data as frequently as you wish, such over multiple files at the time the data is collected. Just make sure you enter your Scientific Licence number when you submit a file and keep a record of file names and date(s) of submission, in order to notify Wildlife Licensing at the time of your next Scientific Licence renewal.

Please only submit new sightings once. This applies to both:

- Records you have previously submitted. If, for example, you have decided to keep all of your records for the year in a single spreadsheet and you decide to submit records periodically throughout the year (at the end of each project, for example), please only submit the new records. Submitting the same records twice will be flagged as duplicates, but only after unnecessary effort by BioNet staff.
- Records that someone else has collated for you under their Scientific Licence. The general rule here would be that the individual who has collected records pursuant to their Scientific Licence is responsible for collating and submitting the records themselves. If, for whatever reason, you have agreed to submit the records on their behalf (such as in the case that you have sub-contracted them to do the survey for you), then if the agreement between both of you is that you shall submit the records, please be clear to ensure that only one of you submits the records and also clearly advise Wildlife Licensing of this at the time of the Licence renewal. *Note that this does not apply to datasets you submit online that fail validation due to missing/erroneous values. Datasets may need to be submitted several times until they pass validations.

6.1.1 Introduction to bulk upload of species sightings data

The following instructions refer to the upload process for 'Species sightings' data. Figures 6.3 and 6.4 summarise the workflow.

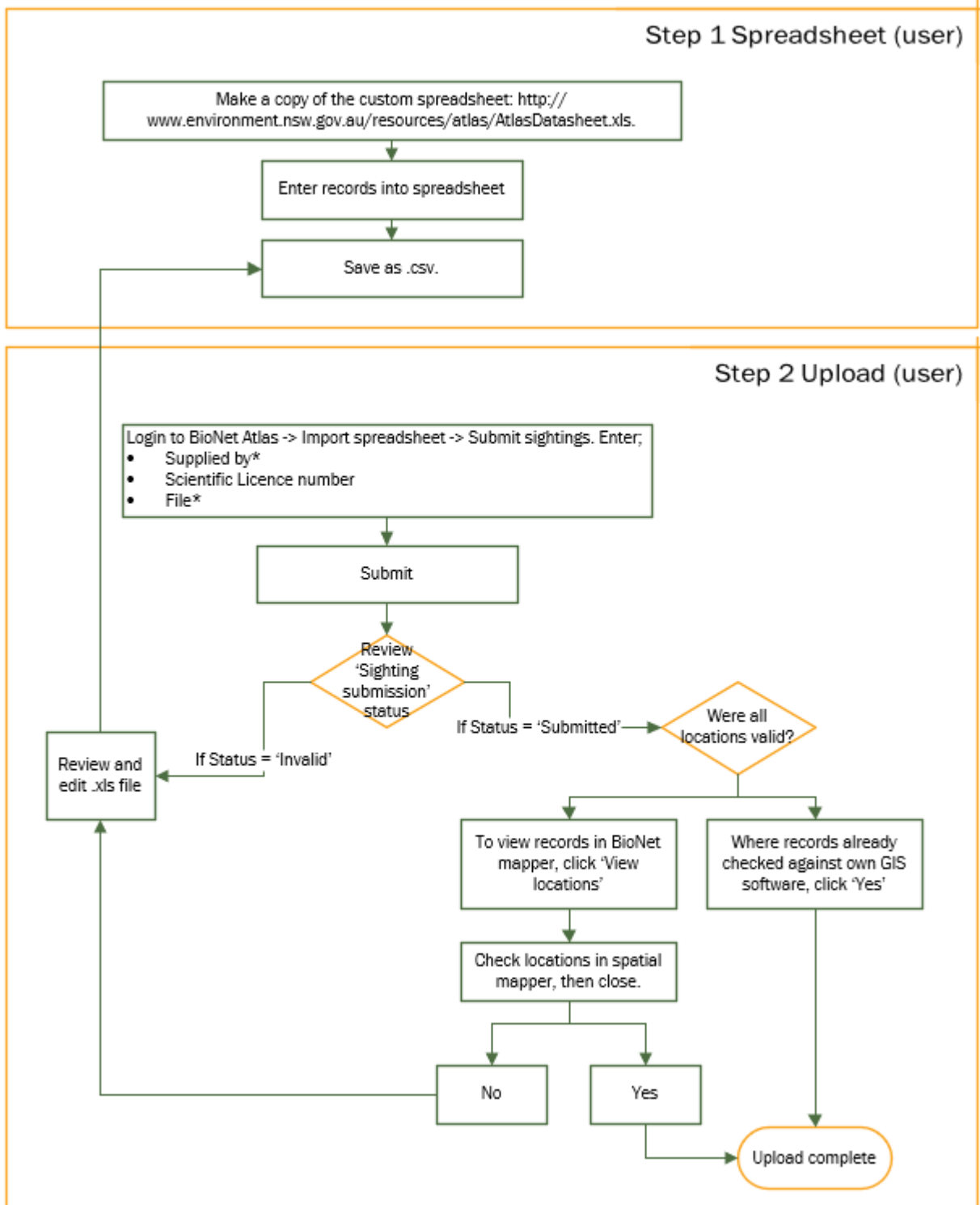


Figure 6.3 Summary workflow for bulk uploads of 'Species sightings' data – Steps 1 and 2

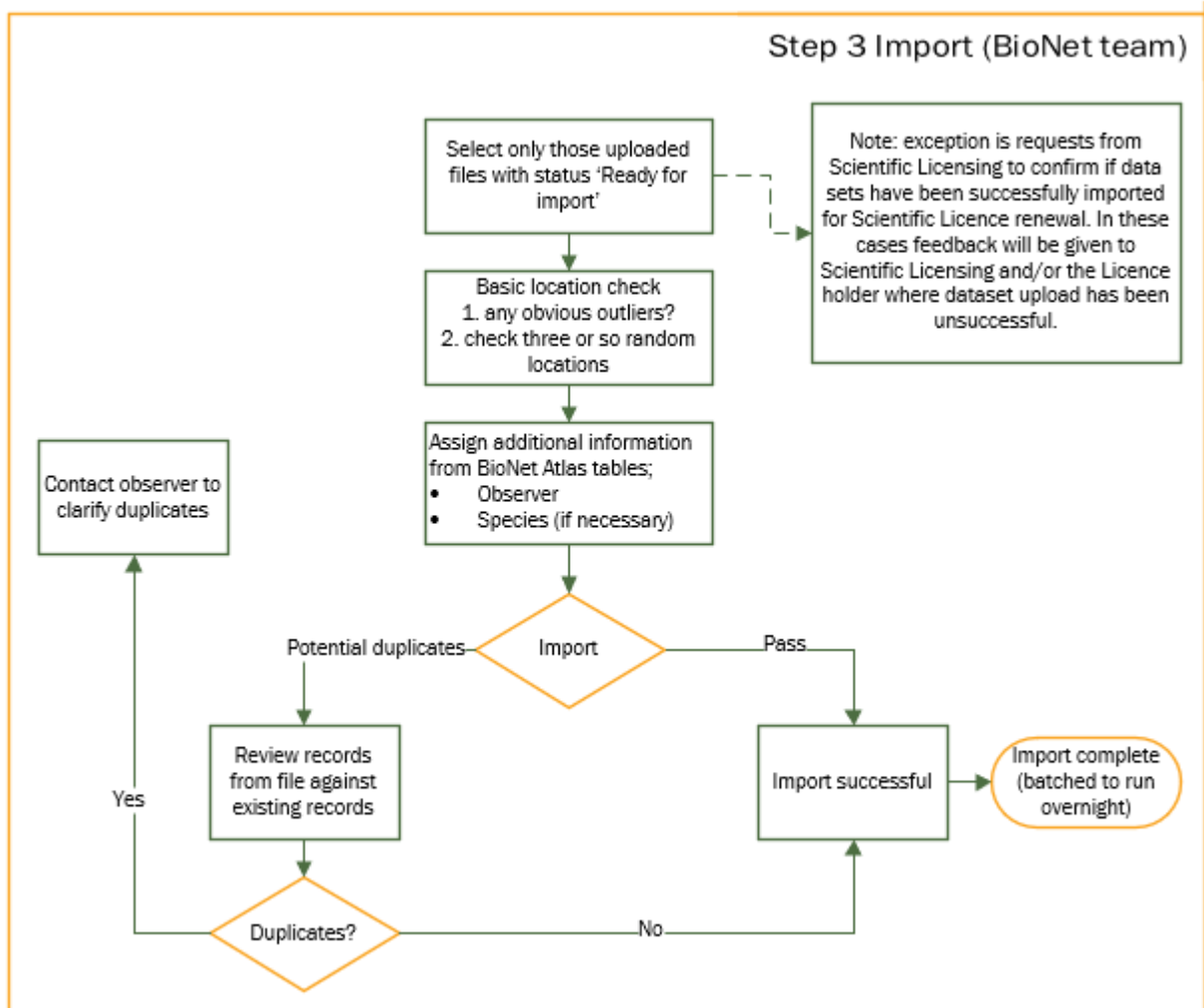


Figure 6.4 Summary workflow for bulk uploads of ‘Species sightings’ data – Step 3

6.2 Enter species sightings into the spreadsheet

1. Always download the latest copy of the datasheet from the [BioNet resources page](#) and save it to your local/share drive. Within the ‘AtlasDatasheet.xls’ file, you will note that there are 3 worksheets:
 - ‘Sighting Records’ – this is where all the sightings details are entered (see Figure 6.5).

1	Updated 05/04/2018		Species		Date		Number		Sex Code		Breeding Type		Source Code		Datum		GPS		Zone		Easting		Northing	
2	Index	Type	Species Code	Common Name	Scientific Name	First Date	Last Date	Count	Estimate Code	Sex Code	Breeding Type	Source Code	Datum	GPS	Zone	Easting	Northing	Zone	Easting	Northing	Zone	Easting	Northing	
3	Sequential number.	Fauna (FA) or Flora (FL)	Once Type and Scientific Name fields are entered, if the name currently exists in the Reference worksheet, the Code will be auto populated.	Once Scientific Name and Type are entered, Common Name will be automatically populated (if applicable).		Date of sighting (ddmm/yyyy hh:mm:ss)	If more than 1 day (ddmm/yyyy hh:mm:ss)	Count of individuals (numeric)	Accuracy of count. See Reference worksheet for definitions.	See Reference worksheet for definitions.	Field accepts multiple codes. See Reference worksheet for values and definitions.	Source of the sighting; automatically populated as 'x' - sighting after Type field is populated. After Source value if specimen lodged or sighting is questionable. See Reference worksheet for definitions.		Was a GPS used?		Enter one co-ordinate type only (i								
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Figure 6.5 The 'Sightings Records' worksheet

- 'Reference' (see Figure 6.6) – this contains the codes and descriptions for each of the fields in the 'Sighting records' worksheet. The 'Reference' worksheet is needed to ensure validation (on entry into the Excel file) of values in the 'Sighting records' worksheet. Given this worksheet is periodically updated with new species codes, it is important to always download the latest datasheet.

1	Type	Description	Fauna Scientific Name	Fauna Species Code	Fauna Common Name	Flora Scientific Name	Flora Species Code	Flora Common Name
2	FA	Fauna (Microchiroptera suborder)	(Microchiroptera suborder)	T202	Unidentified Microbat	Pleoloma queenslandica	14806	Bush Coondoo
3	FL	Flora (includi A complex sp.		I1000		Abarema grandiflora	5694	
4		Abantades hyalinatus	I1444		Abarema hendersonii	5695		
5		Abantades leucoclitus	650		Abarema muelleriana	5696		
6		Abalbesmyia sp.	I1001		Abarema sapindoides	5697		
7		Abalbus sp.	054		Abarema spp.	ABAR		
8		Aboetheta pteridonoma	035		Abela chinensis	11687		
9		Abrieta curvicauda	T915	Floury baker	Abela floribunda	11787		
10		Acalyptophis peronii	Z736	Horned Seasnake	Abela spp.	ABEI		
11		Acanthaeschnia sp	T343		Abela x grandiflora	10755		
12		Acanthaeschnia victoria	T330	Thylacine Damner	Abela x grandiflora	13665		
13		Acanthagenys rufogularis	6640	Spiny-cheeked Honeyeater	Abelmoschus manihot	6879		
14		Acanthis flammea	6790	Common Redpoll	Abelmoschus manihot subsp. manihot	11038		
15		Acanthis flammea cabaret	6686		Abelmoschus moschatus	6824		
16		Acanthis apicalis	6476	Inland Thornbill	Abelmoschus moschatus subsp. moschatus	6878		
17		Acanthis apicalis albiventris	6479		Abelmoschus spp.	ABEL		
18		Acanthis apicalis apicalis	6235		Abies spp.	13700		
19		Acanthis apicalis cinerascens	6236		Abildgaardia ovata	6856		
20		Acanthis apicalis whitlocki	6477		Abildgaardia vaginata	6186		
21		Acanthis chrysothroa	6486	Yellow-rumped Thornbill	Abrophyllum ornans	6220	Native Hydrangea	
22		Acanthis chrysothroa chrysothroa	6247		Abrotanella niuigena	1246		
23		Acanthis chrysothroa leachi	6246		Abrotanella spp.	ABRO		
24		Acanthis chrysothroa leighi	6245		Abrus precatorius	7512	Gidee Gidee	
25		Acanthis chrysothroa normantoni	6244		Abrus precatorius subsp. africanus	12978		
26		Acanthis ewingi	6473	Tasmanian Thornbill	Abrus precatorius subsp. precatorius	10692		
27		Acanthis ewingi ewingi	6237		Abrus spp.	ABRU		
28		Acanthis ewingi rufifrons	6238		Abutilon calliphylum	6625		
29		Acanthis inornata	6472	Western Thornbill	Abutilon cryptopetalum	6626		
30		Acanthis iredalei	6482	Slender-billed Thornbill	Abutilon fraseri	6627	Dwarf Lantern-flower	
31		Acanthis iredalei hedleyi	6483		Abutilon grandifolium	6628		
32		Acanthis iredalei iredalei	6243		Abutilon halophyllum	6629		
33		Acanthis iredalei rosiniae	6242		Abutilon leucopetalum	6608		
34		Acanthis katherina	6474	Mountain Thornbill	Abutilon macrum	6630		
35		Acanthis lineata	6470	Striated Thornbill	Abutilon malvifolium	6631		
36		Acanthis lineata alberti	6251		Abutilon otocarpum	7184	Desert Lantern	
37		Acanthis lineata clelandi	6252		Abutilon oxycarpum	6632	Straggly Lantern-bush	
38		Acanthis lineata lineata	6252		Abutilon oxycarpum var. oxycarpum	6407		
39		Acanthis lineata whitei	6254		Abutilon oxycarpum var. subsagittatum	7320		
40								

Figure 6.6 The 'reference' worksheet

- 'Info' – contains brief abstract and contact details including the date the file was last updated (Figure 6.7).

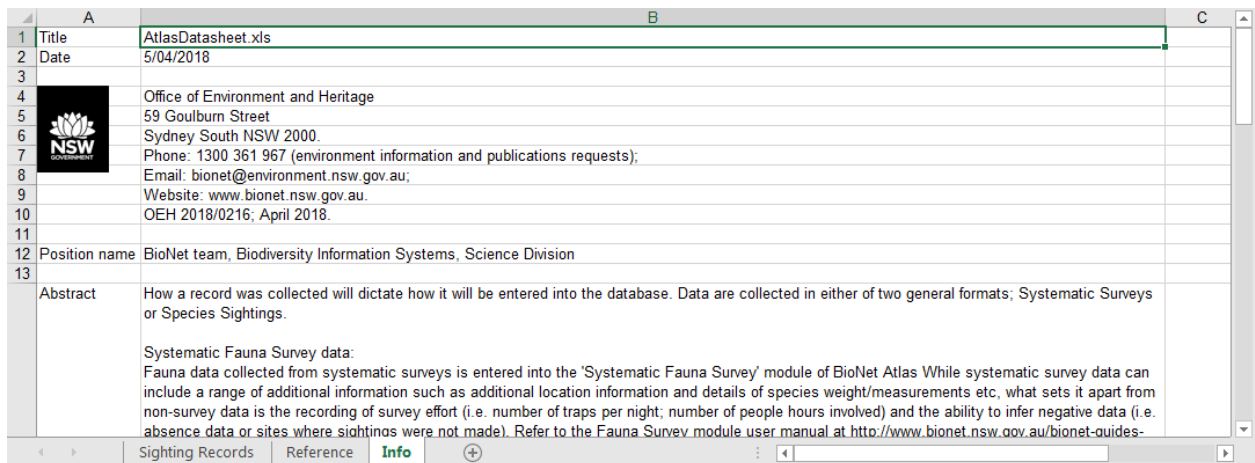


Figure 6.7 The 'Info' worksheet

- Enter the details of your species into the 'Sightings Records' worksheet of the spreadsheet. To assist, Table 6.2 summarises the different field types and behaviours.

Table 6.2 Summary of the various field type and behaviours for cells in 'AtlasSpreadsheet.xls'

Field type	Behaviour	Example screenshot
Mandatory fields	<p>Only a few fields in the 'Sighting Records' worksheet are mandatory. These are highlighted in yellow; the first two mandatory fields are shown here.</p> <p>Once data is entered into these fields in the correct format, the cells will automatically become white, as shown here.</p>	

Field type	Behaviour	Example screenshot
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Predefined dropdown lists	<p>Some fields require a value to be selected from a pre-determined list. Clicking in the cell will display a dropdown arrow, which when clicked on, displays the full set of value options, such as illustrated for the field 'Type', shown here. You can either select the appropriate option from the dropdown list, or type in the value. Note that if you enter a value into a field with a dropdown menu that is not contained in the predefined list of values (e.g. typing the value 'Fauna' into the 'Type' field), the following error message pop-up will display;</p> <p>Click either button and select the appropriate value from the dropdown list.</p>	

Specific formats	<p>Some cells do not have dropdowns, but still require values to be entered with a certain format. For example, the date field must be entered in the format dd/mm/yyyy and must be greater than 01/01/1770 and less than the date of data entry. Entering a value which does not match the requirements for that field, will highlight the cell red, as shown here. You will need to edit the values to the correct format before the cell will display as white.</p>	
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Free text	Some cells allow free text, such as the 'Notes', 'Specimen Rego' and 'External Key fields', however there is a cap on the number of characters allowed. Exceeding the maximum allowed length will result in a truncation of data after import.
-----------	--

Free text, though using pre-set codes	In the BioNet Atlas database, the 'Breeding Type' field can hold multiple values however the predefined dropdown lists only allows a single selection. To enable multiple values to be included, you need to refer to the 'Reference' worksheet for the appropriate code(s) and manually type these into the cell. While typing anything else into these cells won't cause the cell to highlight red, ensuring you use the correct codes and format avoids the upload returning an error.
---------------------------------------	---

Linked Mandatory fields	<p>Some cells become mandatory after a value has been entered into a related field, for example;</p> <ul style="list-style-type: none"> entering a value into the 'Specimen Rego' field will cause the 'Specimen location' field to highlight yellow (and vice versa). Note that this example will also cause the 'Source code' field to highlight red, prompting you to change the value to indicate where the specimen has been lodged (a public or private museum or herbarium).
-------------------------	--

Field type	Behaviour	Example screenshot
	<ul style="list-style-type: none"> the 'Observation Type' field only highlights yellow when fauna is selected in the 'Type' field. 	

Following are some tips and troubleshooting when entering values into the Atlas datasheet.

TIPS and Troubleshooting when entering values into the AtlasDatasheet.xls

1. Always enter the first record into Row 4 and do not skip any rows or enter values unrelated to sightings into other cells elsewhere in the spreadsheet.
2. If add value with a single apostrophe in 'Title' or 'Notes' fields, the apostrophe will be exported and stored as a question mark in the database. If practical, please refrain from using apostrophe's in these fields.
3. If you are copying across data from old Excel files, into the 'AtlasDatasheet.xls' file, please be aware that there may be an issue with the 'First Date' and 'Last Date' fields whereby the dates are re-formatted to numeric (and as a result no longer resemble the date). Please keep this in mind and check the date fields in 'AtlasDatasheet.xls' after pasting values from other files.
4. Always makes edits to the '.xls' file (both new datasets and edits to existing datasets), to ensure appropriate validation. Entering new records into the '.csv' file will compromise the inbuilt validations as editing the '.csv' file converts the species code field to numeric, thereby removing the ability to store leading zeros resulting in many species codes being submitted in error.

Only after there are no red or yellow cells is the file ready for submission to import.

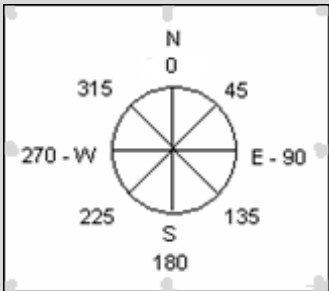
Table 6.3 contains descriptions for each of the fields in the Species sightings spreadsheet and the required format for entry. Mandatory fields are marked with an asterisk.

Table 6.3 'Import spreadsheet' fields

Field category	Field name	Description	Format
–	Index	A sequential number.	Integer
–	Type*	Distinguishes fauna (FA) from flora (FL) species. Note that fungi are included under FL.	Select from dropdown list.
Species	Species Code	<p>A unique code attributed to an individual species, genus, or family.</p> <p>Codes are obtained from the Census of Australia Vertebrate Species (CAVS) and Census of Australian Plant Species (CAPS) library fields which are listed in the Reference sheet.</p> <p>Please note that entry of codes is not required as they will be automatically populated if you fill in the Scientific name first or can be determined by the BioNet team where the code does not exist, so long as the species Scientific and/or Common name is provided.</p>	Unique letter/number (see CAVS and CAPS lists).
	Common Name*	The common name by which the species is known.	Free text, up to 80 characters.

Field category	Field name	Description	Format
		Note 'Common Name' is required for fauna, where the 'Scientific Name' is not supplied. 'Common Name' is not required for flora.	
	Scientific Name*	The scientific name by which the species is known. Note 'Scientific Name' shall be required for fauna, where 'Common Name' is not supplied. 'Scientific Name' is required for flora.	Free text, up to 80 characters.
Date	First Date*	The date the species was sighted. Time is optional.	dd/mm/yyyy hh:mm:ss >/= 01/01/1770.
	Last Date	For species recorded on a specific day, you can leave this field blank. For species recorded over a period of time (e.g. during a survey conducted over a week, or where an approximate date was given), enter the 'Last Date'.	dd/mm/yyyy hh:mm:ss. Later than or equal to First Date, and </= date of data submission.
Number	Count	The total number of individuals.	Integer, > 0.
	Estimate Code	The accuracy of the 'Count' (e.g. 'exact', 'estimate', 'more than', or 'less than').	Select from dropdown list.
–	Sex Code	The sex of the species.	Select from dropdown list.
–	Breeding Code	Details of the Breeding status of the species. See 'Reference' worksheet for available values and definitions. Note different breeding codes for fauna versus flora.	Multiple codes separated by either; <ul style="list-style-type: none"> • comma, • comma and space, • space, • semicolon, or • semicolon and space. Total character length </= 100.
	Source Code*	Source distinguishes standard sightings from those held at public or private collections. The default value for this field is set to 'Sighting only', which will be automatically populated once a value is entered into the 'Type' field. You only need to change the value if a specimen was taken (i.e. either 'Specimen with a public museum or herbarium' or 'Specimen with another collection'), or if there is some uncertainty around the identification, particularly in the case of Anabat records (i.e. 'Sighting – probable ID' or 'Sighting – possible ID'). See reference worksheet for values and definitions.	Select from dropdown list.
Location***	Datum*	Defines the coordinate system. Refer to the Geoscience Australia website for an explanation of datums; www.ga.gov.au/earth-	Select from dropdown list.

Field category	Field name	Description	Format
		monitoring/geodesy/geodetic-datums/about.html	
	GPS*	Whether a Global Positioning System (GPS) was used to obtain the coordinates.	Select from dropdown list.
		Coordinates are a reference for any point on the earth's surface and can be supplied as either Projected (Zone, Easting, Northing) or Geographic (Latitude, Longitude). Note If Zone, Easting and Northing are not supplied; Latitude and Longitude or Latitude Degrees, Latitude Minutes, Latitude Seconds and Longitude Degrees, Longitude Minutes, Longitude Seconds are required but not both projected and geographic.	
	Zone	Zone 56 is 150° – 156° longitude, which encompasses much of eastern NSW. Zone 55 is 144° – 150° longitude. Zone 54 is 138° – 144° longitude, encompassing most of western NSW. Zone 57 covers Lord Howe Island.	Select from dropdown list.
	Easting	The reference in metres, measured east of an arbitrary origin (also referred to as the x-coordinate).	A six-digit number, with up to four decimal places.
	Northing	The reference in metres, measured north of an arbitrary origin (also referred to as the y-coordinate).	A seven-digit number, with up to four decimal places.
		Readings of latitude and longitude can either be provided as degrees, minutes, seconds or as decimal degrees. Decimal degrees are the preferred format.	
	Latitude	The position South of the Equator measured in decimal degrees.	>/= -40, </= -20.
	Longitude	The position East of the Greenwich meridian measured in decimal degrees.	>/= 138, </= 162.
	Latitude Degrees	The position South of the Equator measured in degrees.	Integer, >/= -40, </= -20.
	Latitude Minutes	The position South of the Equator measured in minutes.	Integer, between 0 and 60
	Latitude Seconds	The position South of the Equator measured in seconds.	Numeric, between 0 and 60
	Longitude Degrees	The position East of the Greenwich meridian measured in degrees.	Integer, >/= 138, </= 162.
	Longitude Minutes	The position East of the Greenwich meridian measured in minutes.	Integer, between 0 and 60
	Longitude Seconds	The position East of the Greenwich meridian measured in seconds.	Numeric, between 0 and 60
	Accuracy*	How accurately the coordinates represent the exact location of the species (in metres). For example, a value of 100 would mean that the location is accurate to the nearest 100 metres.	Integer, >/= 1 and </= 100,000, with no more than four decimal places.
	Location Description*	Detailed description of the geographic location, such as street, nearest cross-street, town, landmark or reserve.	Free text, no character limit.
	Altitude	The height of the location from sea level, in metres.	Integer,

Field category	Field name	Description	Format
			>/= 0 to </= 2500.
	Geology Code	See reference worksheet for 'Geology' values and definitions.	Select from dropdown list.
	Vegetation Code	See reference worksheet for 'Vegetation Code' values and definitions.	Select from dropdown list.
	Slope	Measured in degrees, from the horizontal.	Integer, between 0 and 90.
	Aspect	Measured in degrees, starting from zero as North and then going in a clockwise direction. E.g. East = 90 	Integer, between 0 and 359.
	Location Notes	Enter any additional notes regarding the location that do not fit within any of the other existing (location related) fields.	Free text, no character limit.
	Observer Name*	Name of the person who recorded the species.	Multiple names allowed, separated by any delimiter (i.e. space, comma, semicolon etc). Free text, up to 500 characters.
Specimen details***	Specimen Rego	The 'Specimen Rego' refers to the unique registration number assigned by the herbarium/museum where the specimen is lodged. Note that this is not the Inquiry number. If the specimen number is not available at the time of submitting your record to the Atlas, write 'not provided' and you can forward the Registration number after you receive it. Note If 'Specimen Rego' is provided, 'Specimen Location' must be provided.	Free text, up to 40 characters.
	Specimen Location	If a specimen has been lodged at an Herbarium or Museum select the location. Note If 'Specimen Location' is provided, 'Specimen Rego' must be provided.	Select from dropdown list.
<p>Note: After entering specimen details, please update the 'Source' field by selecting the appropriate value, either;</p> <ol style="list-style-type: none"> 1. Specimen with public museum or herbarium, or 2. Specimen with other collection 			
	External Key	Observers' own unique reference number.	Free text, up to 30 characters.

Field category	Field name	Description	Format
	Notes	Enter any additional details regarding the species that could not be entered into any of the other existing (species related) fields.	Free text, no character limit.
	Observation Type****	For fauna only. Refers to how the species was observed (e.g. 'observed', 'heard', 'scat'). If more than one observation type was recorded, select the most reliable observation type here, then enter additional values in the Notes field.	Select from dropdown list.
	Microhabitat Type	Small-scale habitat, e.g. 'on ground' or 'in tree'. See reference worksheet for 'Microhabitat type' values and definitions.	Multiple codes separated by either; <ul style="list-style-type: none"> • comma • comma and space • space • semicolon • semicolon and space. Total character length ≤ 100.
Height	Lower Height	The height (in metres) of the shortest plant.	Number, up to two decimal places. Must be less than the Upper height value.
	Upper Height	The height (in metres) of the tallest plant.	Number, up to two decimal places. Must be greater than the Lower height value.
	Growth Habits	Whether the plant is a tree, herb, fern etc.	Select from dropdown list.
Reference*	Note re Reference: If any of the fields in Reference section are supplied, the fields 'Title', 'Author(s)', 'Type of Publication' and 'Year of Publication' are required.		
	Title	If the record is sourced from or being included within a report, include the Title of the publication.	Free text, up to 500 characters.
	Author(s)	Author(s) of the publication.	Free text, up to 255 characters.
	Publisher Name	Name of publisher.	Free text, up to 60 characters.
	Year of Publication	Year of publication.	Integer, ≥ 1770 .
	Type of Publication	Type of publication (e.g. journal, book etc)	Select from dropdown list.
	City of Publication	City of publication.	Free text, up to 30 characters.
	Name of Book	Name of book.	Free text, up to 150 characters.
	Name(s) of Editor	Name(s) of Editor.	Free text, up to 60 characters.

Field category	Field name	Description	Format
	Volume of Publication	Volume, and (if applicable) page numbers (e.g. 4:23-35)	Free text, up to 30 characters.

* Indicates mandatory field

Once all sighting details have been entered you are ready to submit your file for import. You will first need to save your file in the correct format (a comma separated file '.csv').

1. Save the file in Excel, making sure the 'Sighting records' worksheet is the worksheet in your current view.
 - o select the 'Save As' option from the 'File' dropdown menu.
2. A 'Save As' pop-up will appear (Figure 6.8).

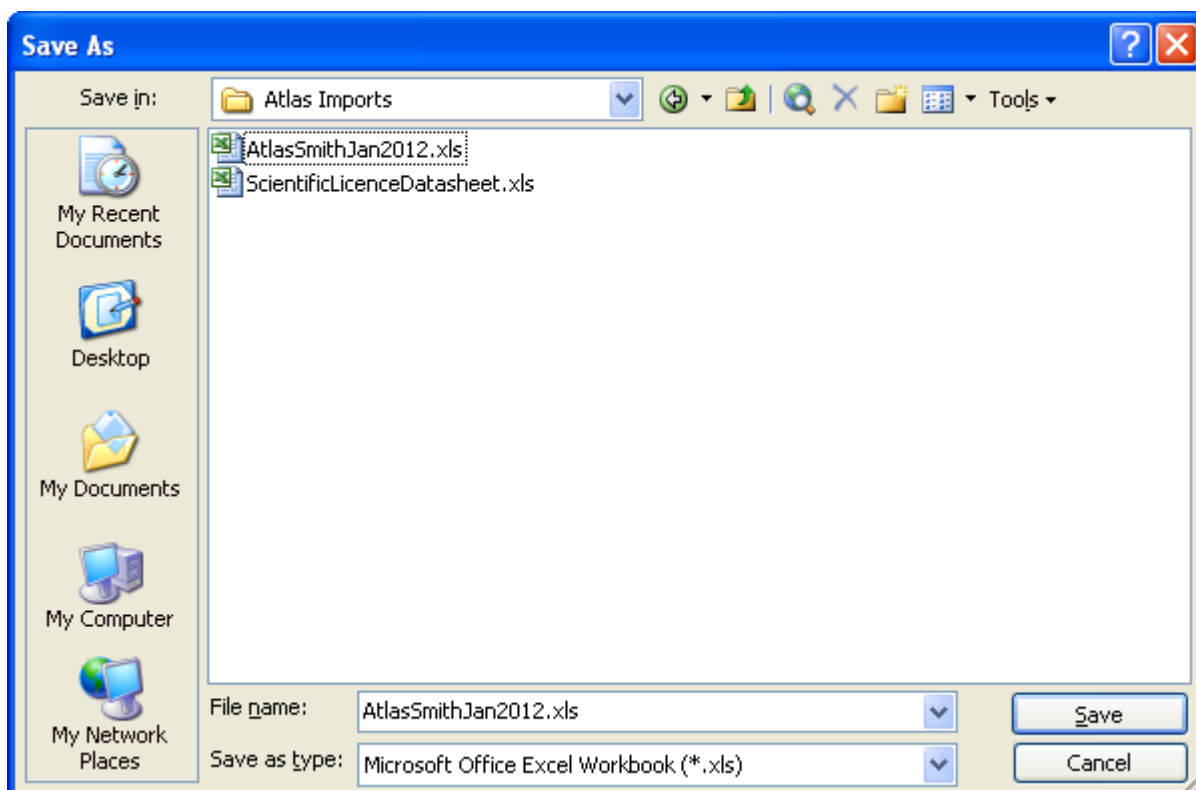


Figure 6.8 'Save as' pop-up

3. In the 'Save As' pop-up, select the file type .csv from the 'Save as type' dropdown menu (Figure 6.9).

Note that this will only save the worksheet in your view, the 'Sighting records' worksheet (so make sure this is your current worksheet).

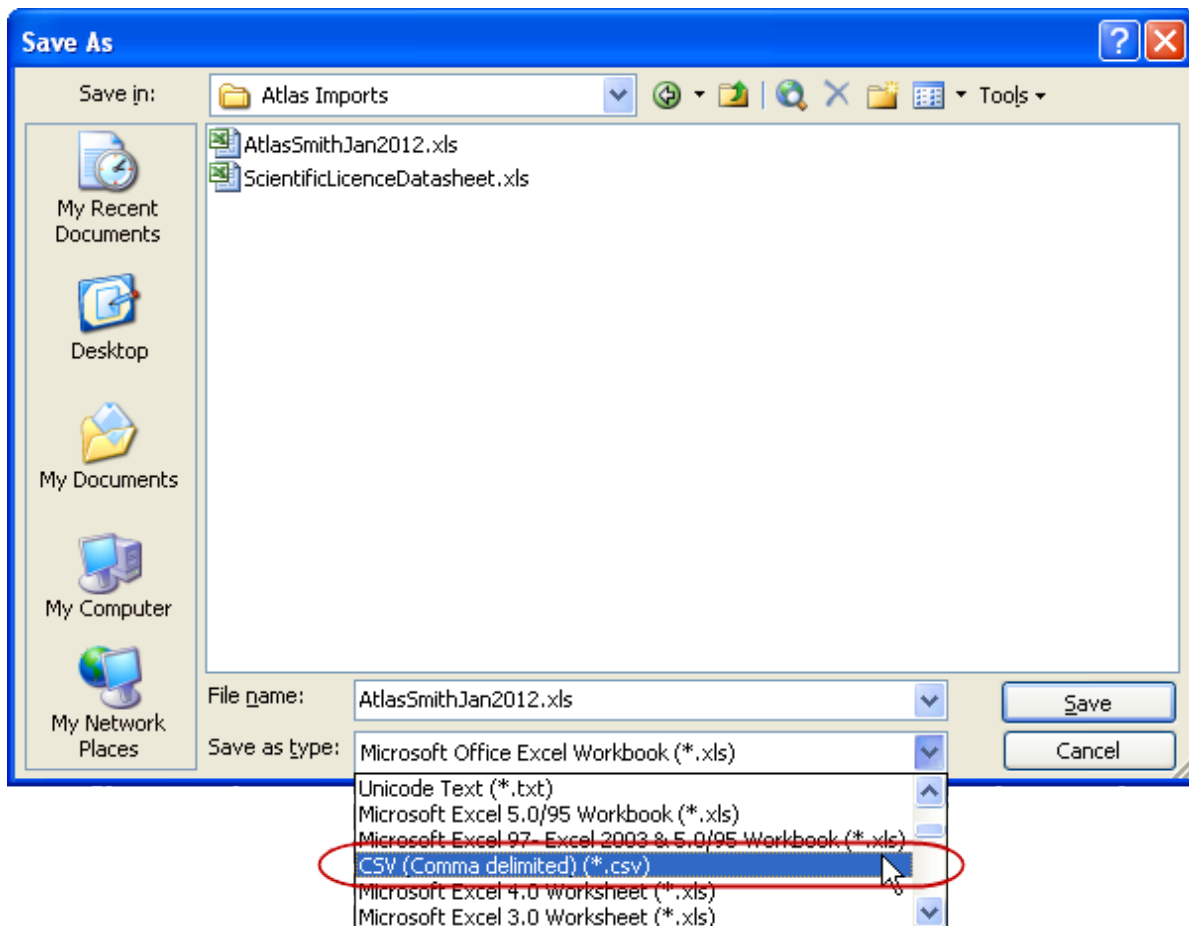


Figure 6.9 Selecting '.csv' option

4. Change the filename to whatever is meaningful for you.
5. Click 'Save'. A pop-up will display advising you that '.csv' files can only save the active sheet (see Figure 6.10).

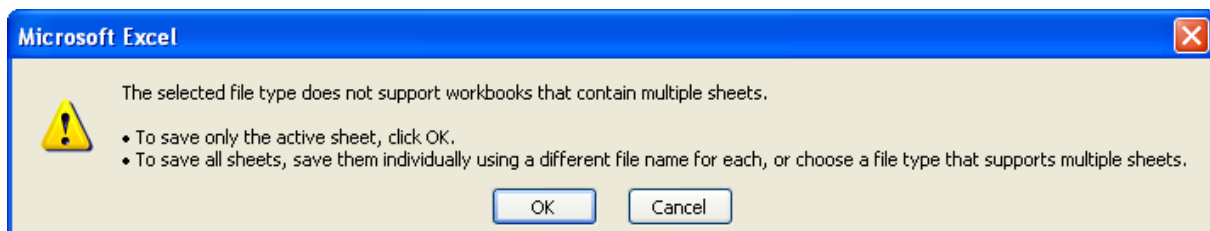


Figure 6.10 Warning that csv files can only save the active sheet

6. Click 'OK' (as you no longer need the 'Reference' worksheet). A second pop-up will now display advising you that the file may contain features that are not compatible with '.csv' (see Figure 6.11).

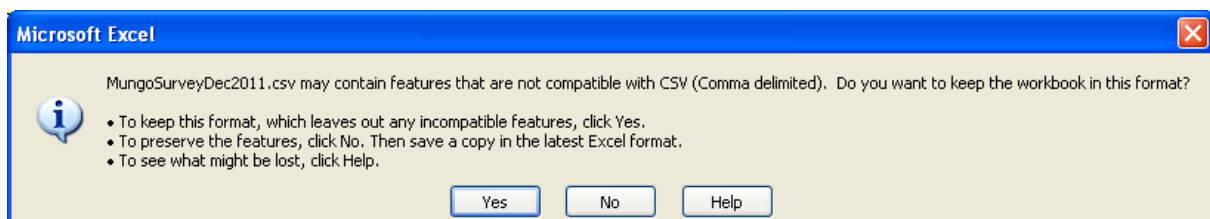


Figure 6.11 Warning that file may contain features not compatible with csv

- Click 'Yes'. The pop-up closes, and the file has been saved. Note that because the 'Reference' worksheet is not stored in your '.csv' file, the file size will be considerably smaller. Your file is now ready to be uploaded via Atlas for submission.

6.3 Upload file to BioNet Atlas

A summary workflow of steps involved in successfully uploading files is available in Figures 6.1 and 6.2.

- Login to BioNet Atlas using your secure login. In the heading banner, note the menu heading titled 'Import spreadsheet'.
- Move your mouse over the 'Import spreadsheet' menu to display the selection 'Submit sightings' (Figure 6.12).



Figure 6.12 Submit sightings option

- A 'Submit sightings' page will display (Figure 6.13).

Submit sightings

Figure 6.13 Submit sightings page

- The five fields available to populate are:
 - 'Dataset'
 - 'Supplied by'
 - 'Scientific licence number'
 - 'Import type'
 - 'File'.

Following is advice for making selections at each of these steps.

6.3.1 'Dataset'

All records in BioNet Atlas are grouped into datasets. To enter records, you will have been assigned access to specific datasets when your login access was set up. Note that you can have access to multiple datasets, but one dataset will be your default.

For users with either 'Registered' or 'Sensitive Species Licence' access, the default will be 'OEH Data from Scientific Licences dataset', while for OEH staff, the default will be 'OEH Default Sightings'.

If this field is blank, or a different dataset displays to that stated for your user role, you will need to search on the 'OEH Data from Scientific Licences dataset'. Where 'OEH Data from Scientific Licences dataset' does **not** appear by default in the Dataset box, please do the following;

1. Click on the 'Search' button. A 'Search for datasource' pop-up window will display, allowing you to search on all Dataset names linked to your account (see Figure 6.13).
2. Type in all (or part) of the 'Dataset name' and click on the 'Search' button. Alternatively, you can also use the wildcard '%' to search on all datasets that you have edit access to (see Figure 6.13).

Search for datasource	
Dataset name	%
Search	
Results 1-2 of 2	
Dataset name	
OEH Data from Scientific Licences dataset	Select
OEH Default Analyses	Select

Figure 6.13 Search for datasource displaying all available datasets

3. In the resulting list of datasets, select 'OEH Data from Scientific Licences dataset' by clicking on the 'Select' link. This will close the 'Search for datasource' pop-up and insert the selected dataset name into the 'Datasource' tab folder.

6.3.2 'Supplied by'

This step is slightly different for registered and all other users with a secure login.

Registered users

1. In the 'Supplied by' field, click on the 'Search' button.
2. A 'Search for Observer' pop-up will display (see Figure 6.14).

Figure 6.14 Search for observer pop-up

3. Enter % in either to 'Surname' or 'Given name(s)' fields and click on the 'Search' button. An observer by the name of 'Registered user' will display in the results list (see Figure 6.15).

Surname	Given name(s)	Address	Town	Phone	Email		
User	Registered			02 9585 6684	atlas@environment.nsw.gov.au	Select	

Figure 6.15 Search for observer displaying Registered user details

4. Click on the 'Select' link. You will then be returned to the 'Submit sightings' page, where the 'Supplied by' field is now populated with the name 'Registered user'.

Please note that even if your contact details exist in the system (either because you have previously submitted sightings to the Atlas or have had a Licensed user account in the past), you will not be able to search on your personal details as a Registered user. Only the name 'Registered user' will be available for you to select.

Other licensed users (Sensitive Species Licence, Government and all OEH)

The supplied by field allows you to identify the name of the 'owner' of the dataset. In most cases this will be you (i.e. the observer of the records). Note that if you are submitting a file on behalf of someone else, please select their name.

1. In the 'Supplied by' field, click on the 'Search' button. A 'Search for Observer' pop-up will display (see Figure 6.16).
2. Type in all (or part) of your 'Surname' and/or 'Given name(s)'.
3. Click the 'Search' button.
4. All names that match your search criteria will display. Please note that the names available for you to search on, are restricted based upon your login details. As a result, you will only be able to search on observers which are attached to your licence/access (see Figure 6.16).

Search for observer Close

Surname:

Given name(s):

Results 1-2 of 2 [Show all results](#)

Surname	Given name(s)	Address	Town	Phone	Email		
Green	Teresa	1 Eucalyptus Drive	Lilly Pilly	99999999	teresa.green@wildflownursery.com.au	Select	
Green	Walter	2 Eucalyptus Drive	Lilly Pilly	88888888	walter.green@wildflownursery.com.au	Select	

Figure 6.16 Search for observer pop-up

5. If there are multiple names that match your search criteria, you can click on the 'i' button. A pop-up displays with additional contact details for the observer (Figure 6.17).

User key: OMAU18082000

Given name(s): Teresa

Surname: Green

Address: 1 Eucalyptus Drive

City: Lilly Pilly

State: New South Wales

Postcode: 1111

Phone: 99999999

Email: teresa.green@wildflownursery.com.au

Occupation: Horticulturist

Notes:

Figure 6.17 Full contact details pop-up

6. Click anywhere outside of the pop-up to close it.
7. To choose your details, click on the 'Select' link.

8. The 'Search for observer' pop-up closes, and your selected contact details are displayed in the 'Supplied by' field.

Scientific licence number

If the dataset (or part thereof) is being supplied pursuant to a Scientific Licence, the licence number(s) should be recorded here.

1. Enter the licence number(s) in the 'Scientific licence number' field (this is a free text field, allowing up to 50 characters). Multiple licence numbers can be separated by a space, comma or semicolon.

Note that Scientific Licensing use the data from this field when renewing licenses to ensure data has been successfully submitted before issuing a new licence. It is therefore important that you do not leave this field blank if you are submitting records pursuant to your Scientific Licence.

Import type

At the 'Import type', note the default selection is for 'Standard Import sighting'.

Leave this as is for all species sightings data. Note that if you wish to upload systematic survey data (either fauna or flora), please refer to the relevant survey section for requirements or discuss with the [BioNet team](#).

File

1. To select your file for upload, look at the 'File upload' box (Figure 6.18).

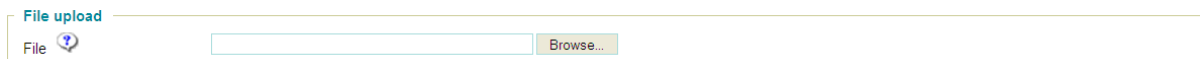


Figure 6.18 The 'File upload' search box

2. Note the help button. If you click on the button, a pop-up reminds you that only '.csv' files can be uploaded.
3. Click on the 'Browse' button. A 'Choose file to upload' pop-up displays (see Figure 6.19).

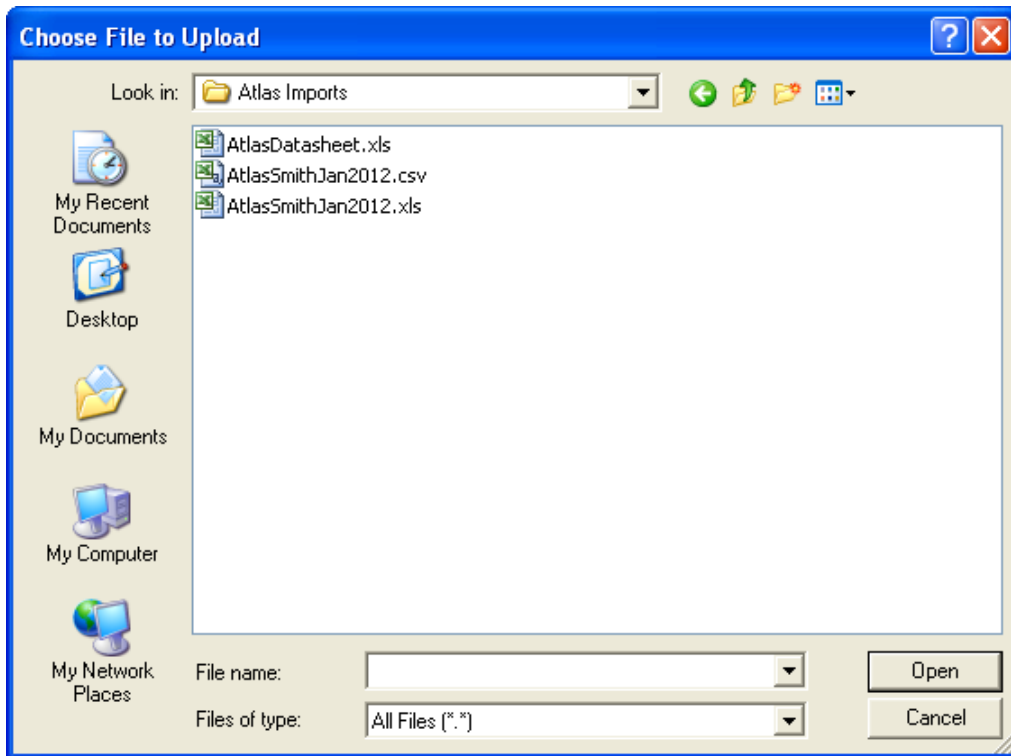


Figure 6.19 'Choose file to upload' pop-up

4. Use the 'Look in' field to navigate to your file held on your local or hard drive (Figure 6.20).

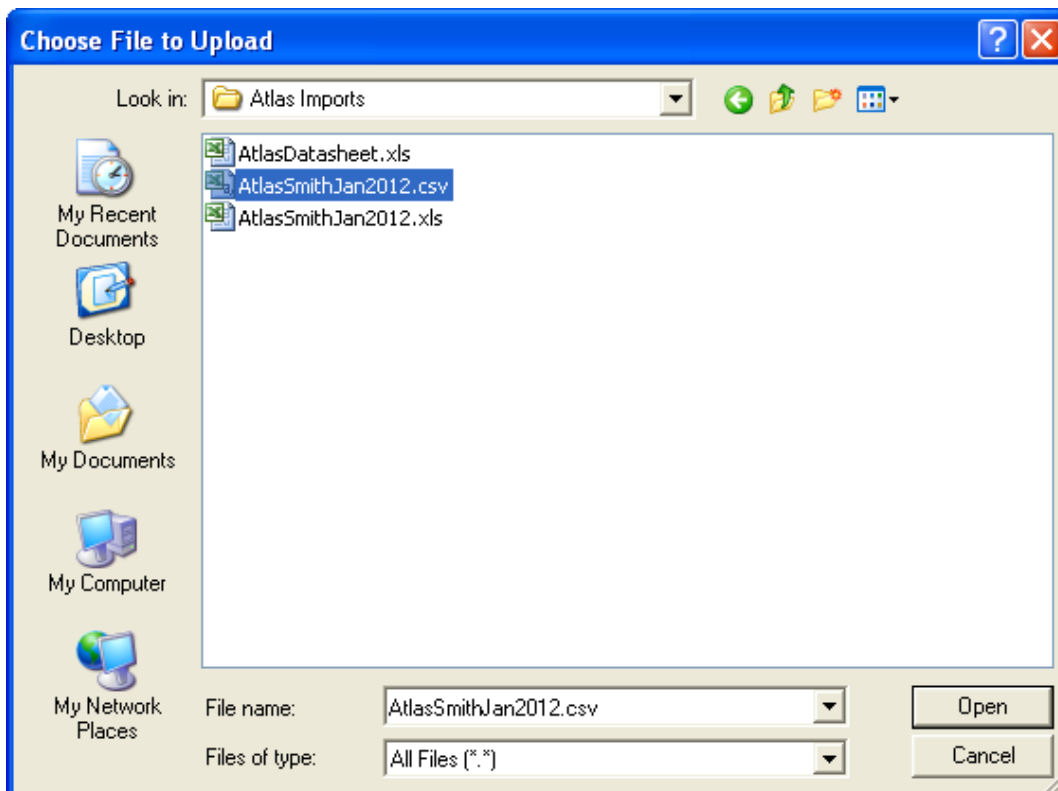


Figure 6.20 'Choose file to upload' pop-up

NB: Unfortunately, you **cannot** use the 'Files of type' menu to filter on only '.csv' files.

- Once your file has been selected, click on the 'Open' button. The file pathway and filename will be listed in the 'File' field and the field will automatically highlight green (see Figure 6.21).



Figure 6.21 File upload search box with csv file successfully selected

- Alternatively, you can type the file name and pathway directly into the 'File' field.
- You may have noted that once the cell highlights green, the 'Submit' button activates. Click on the 'Submit' button. A 'Data processing' pop-up displays (see Figure 6.22).

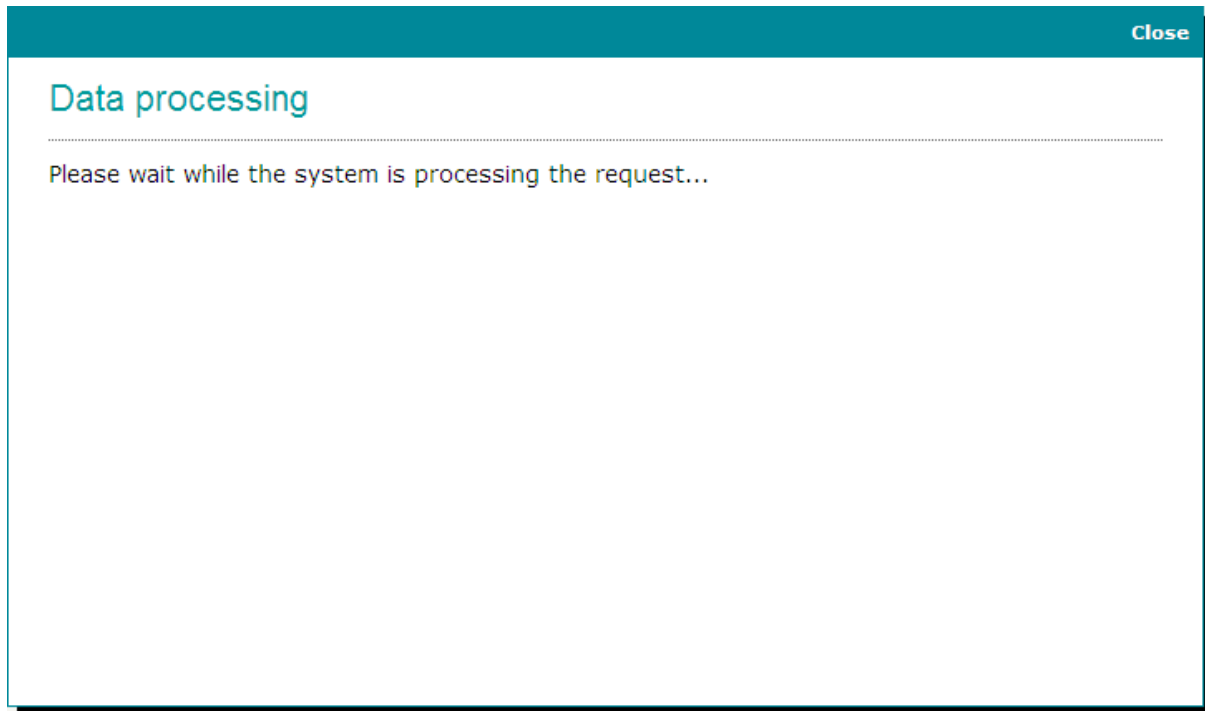


Figure 6.22 'Data processing' pop-up

While processing, your dataset is undergoing preliminary validations which include checking that mandatory fields are filled in and values are entered in the correct format.

Once the database has validated the fields contained in your file, a 'Sighting submission' pop-up will display with details of your submission.

You will need to review both the 'Status' and 'Log' values to determine how next to proceed.

Generally, you will receive one of two 'Status' values:

- 'Invalid'
- 'Submitted'.

'Invalid'

If the 'Status' type displays as 'Invalid', this indicates that your file contains erroneous or missing data (Figure 6.23).

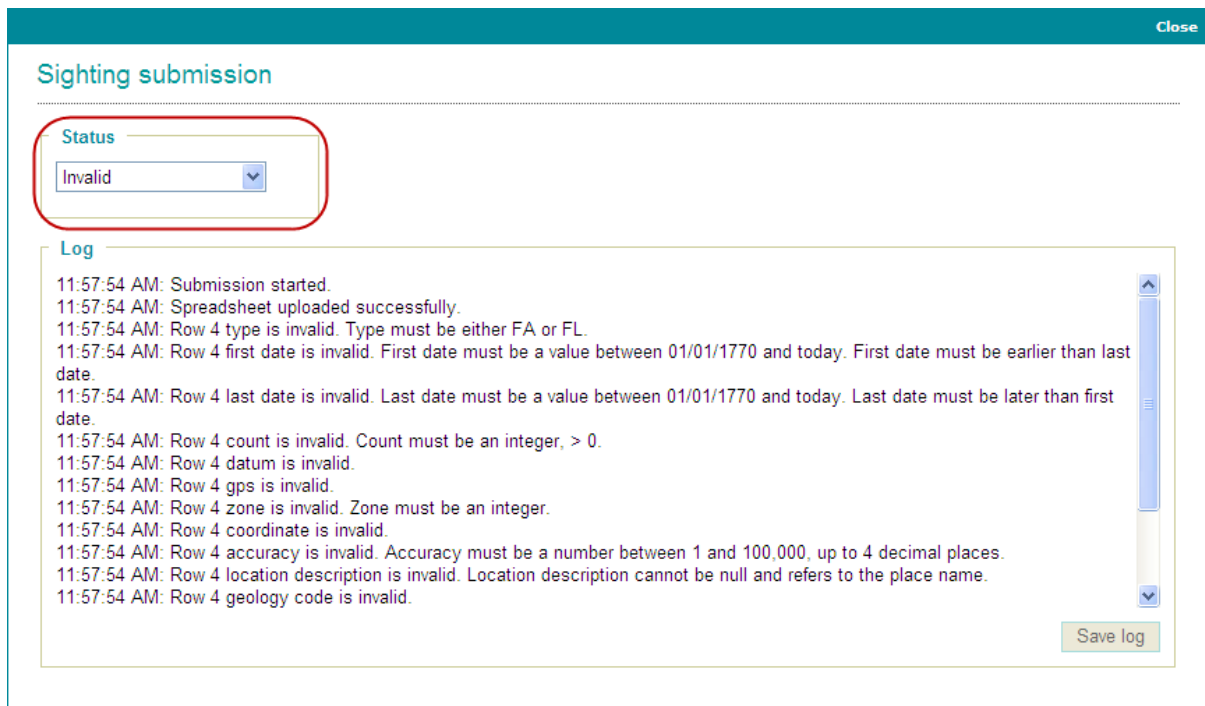


Figure 6.23 An unsuccessful 'Sighting submission' results pop-up

The log will then identify which rows contain fields that require review and edits, with a brief description of what edits are required, as shown in the example above. Note that the row number here refers to the row number in your Excel file.

Note that only the first 100 errors will display in the log, if there are more than 100 error messages, or you wish to review your messages at a later date, you will need to save the log to view details.

1. Click on the 'Save log' button. You will need to fix these errors in the '**xls**' file. Editing the Excel file ensures that the formulae and reference worksheet validates any new values added.
2. Make any edits to the '.xls' file.
3. Resave the file as a '.csv' file.
4. In BioNet Atlas, re-submit the '.csv' file for upload.
5. Repeat this process as necessary until the 'Status' returns as 'Submitted'.

'Submitted'

If the Status type displays as 'Submitted', this means that your submission has passed **almost all** validations (Figure 6.24).

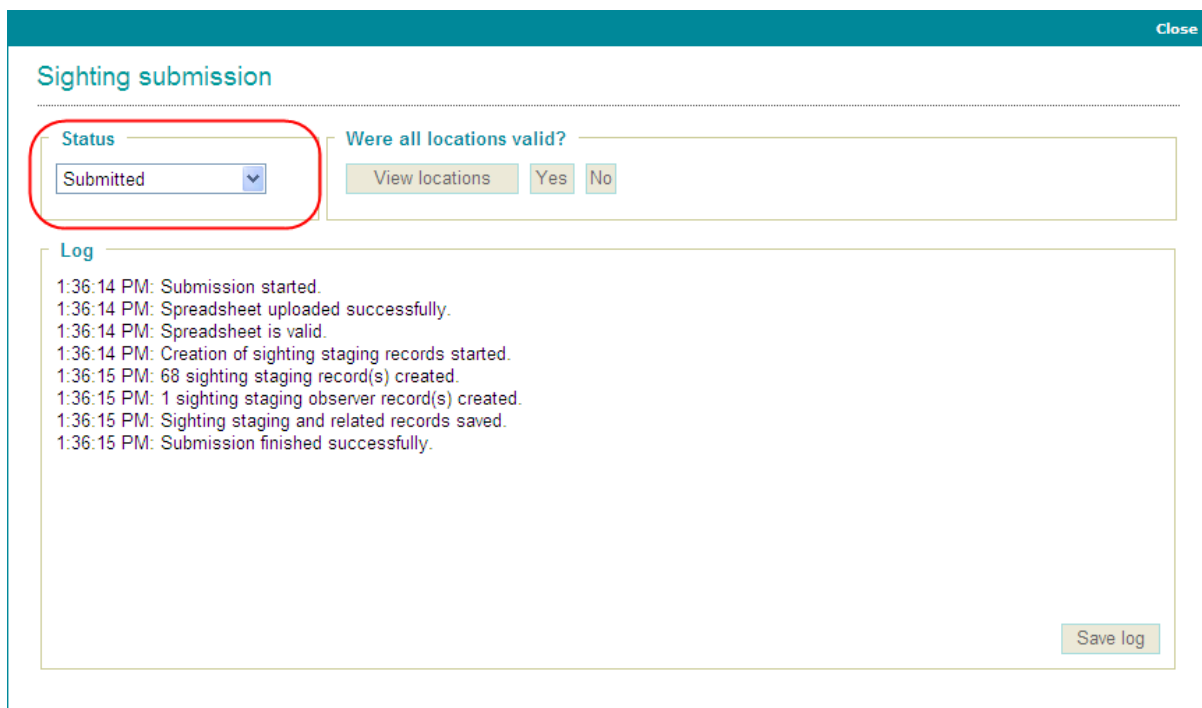


Figure 6.24 A successful 'Sighting submission' results pop-up

Note that the 'Sighting Submission' pop-up will include the box as shown in Figure 6.25.

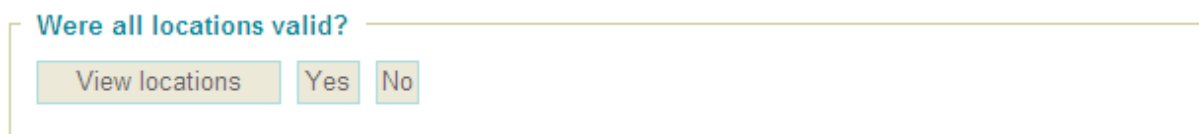


Figure 6.25 Location validation section of the sighting submission pop-up

The final step of the submission is to confirm that all of the locations within the file are valid (i.e. the location description field and coordinates match up).

You have two options:

- Check the locations via a map generated in BioNet Atlas, to confirm they are all valid, or
- Confirm that you have already checked the locations (via your own GIS software, or other means) and they are all correct.

If you have not already checked the location descriptions against the coordinates for all records (via your own GIS software, or other means) in your file, you can do this via the online BioNet Atlas website.

1. Click the 'View locations' button.

Note that a warning message appears advising you to wait while the map may take some time to display (Figure 6.25).

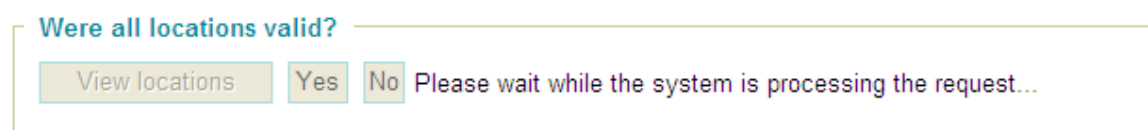


Figure 6.25 Location validation section of the sighting submission pop-up preparing the map

A new window will then open, with a map zoomed to your locations. The map contains a legend on the left, plus two sets of interactive buttons shown highlighted in Figure 6.26.

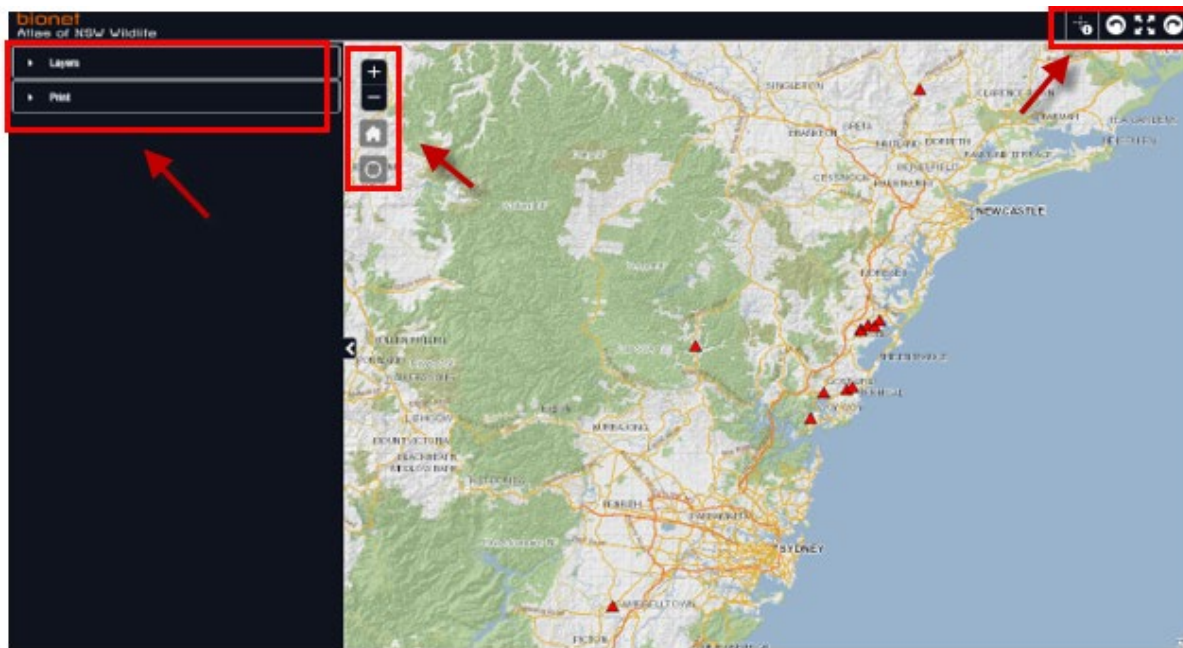






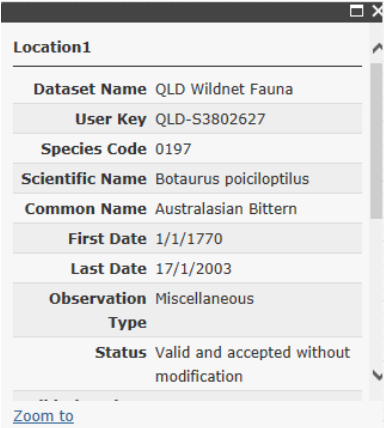



Figure 6.26 Map of record locations, highlighting the legend and two sets of interactive buttons

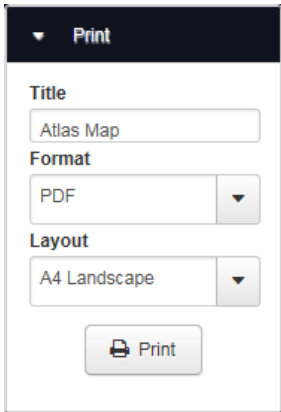
The legend, located on the left had side, provides a key to all the symbols used on the map. To see all information, click on the arrows to the left of each legend item to expand and hide the values.

2. View the locations. For details on how to interact with this map and review details for individual records, refer to Table 6.4 for a general overview of the available functions.

Table 6.4 Function buttons in the Mapper

Icon	Description	How to use
	Zoom in	Click on the Zoom in button to automatically zoom in based on where the map is centred.
	Zoom out	Click on the Zoom out button to automatically zoom out based on where the map is centred.
	Pan	To pan across the map, left mouse click on the map and hold down while moving the map.

Icon	Description	How to use
	Home	To return the map to the original placement, click on the home button.
	Hide the legend	In some instances, sighting records may be obscured by the Legend pane (such as where there are records within South Australia, or the map has been panned off centre). You can close the legend by clicking on the left arrow button located midway down the right-hand side of the legend pane.
	Display the legend	After the legend has been hidden, to display the legend again, click on the right-hand arrow button.
	Identify	<p>The Identify tool identifies features from selected record points. Left mouse click, then click on a record on the map. The info pop-up will display.</p>  <p>Click on the Identify tool and then click a location on the map to see the details of all the sighting records at that location.</p>
	Previous extent	Click to return to the previous extent.
	Full extent	Click to return to the full extent.
	Next extent	Click to go to the next extent.

Icon	Description	How to use
	Print	Expand the Print heading in the Legend. Edit the Title and select the appropriate Format and Layout options from the dropdown menus. Click Print.

- When you have finished checking the records, close the map window.
- If any locations require correction, you will need to click the 'No' button in the 'Sighting submission' pop-up. Another pop-up will appear (Figure 6.27).

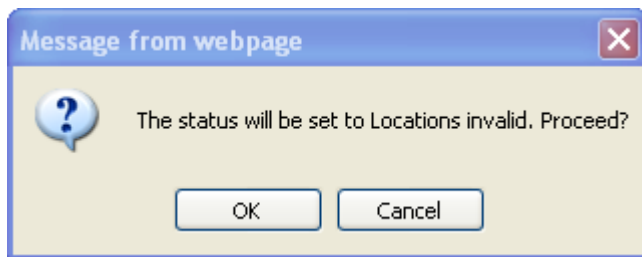


Figure 6.27 Location warning

- Click on the 'OK' button. As a result, the 'Status' will automatically change to 'Locations invalid' (Figure 6.28).

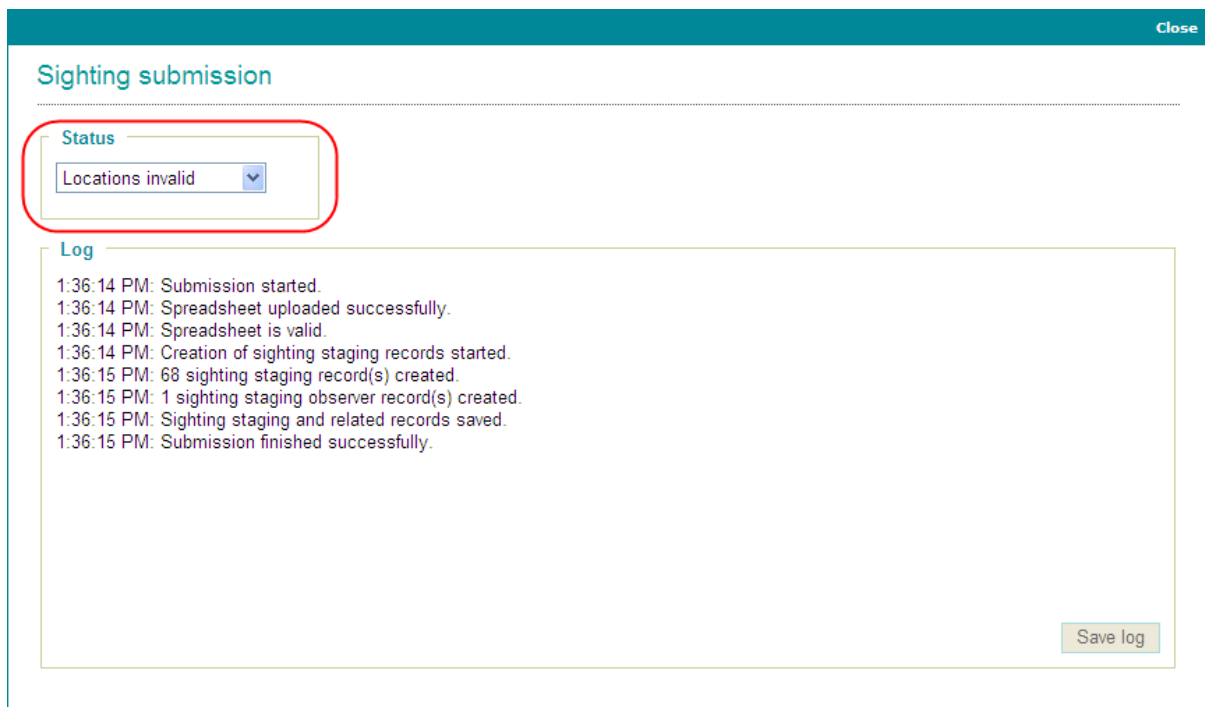


Figure 6.28 Sighting submission unsuccessful

- You will need to make the necessary corrections to your Excel file, resave as a '.csv' file, and submit the updated file via the 'Submit Sightings' selection again. When the file displays with the four highlighted areas (Figure 6.29), you are ready to continue.

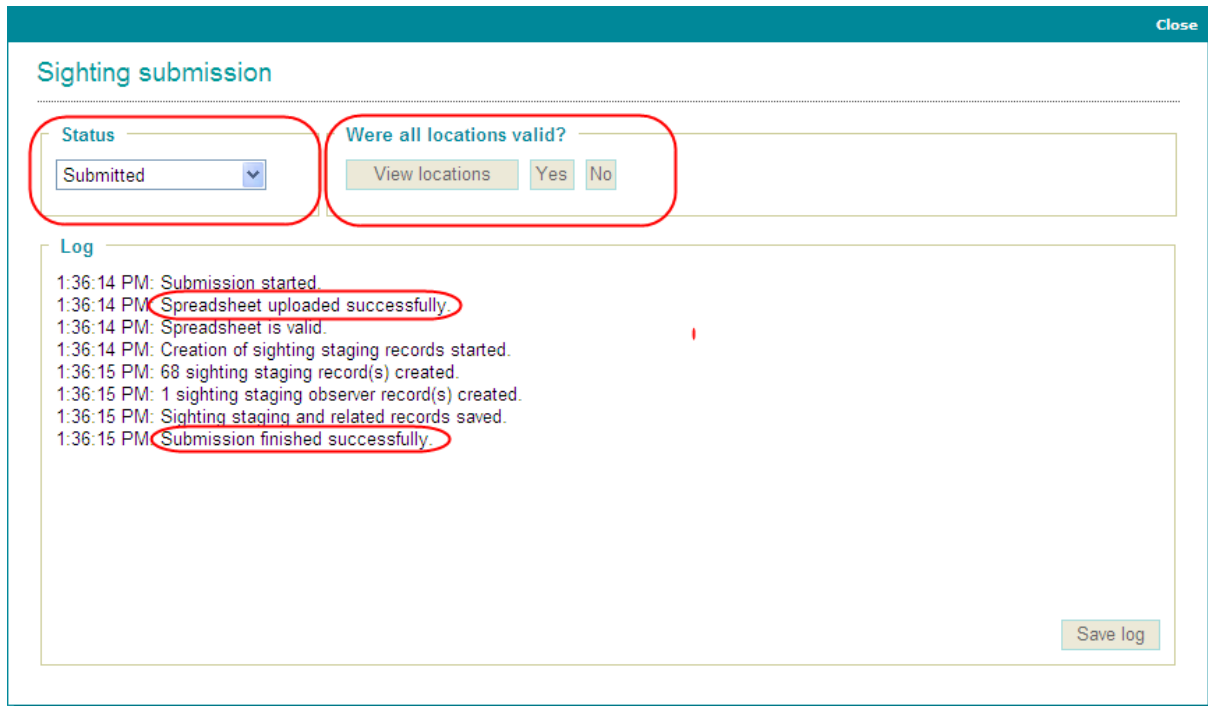


Figure 6.29 Sighting submission successful

- Click the 'Yes' button. A pop-up will display (Figure 6.30).

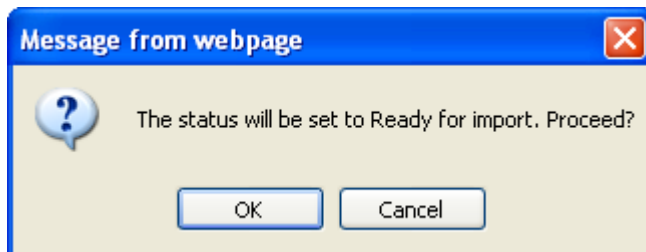


Figure 6.30 Pop-up message

- Click on the 'OK' button. The pop-up closes, the location validation box disappears, and the Status will be set to 'Ready for import' (Figure 6.31). Your file has now been successfully submitted and is awaiting review and import by the BioNet team.

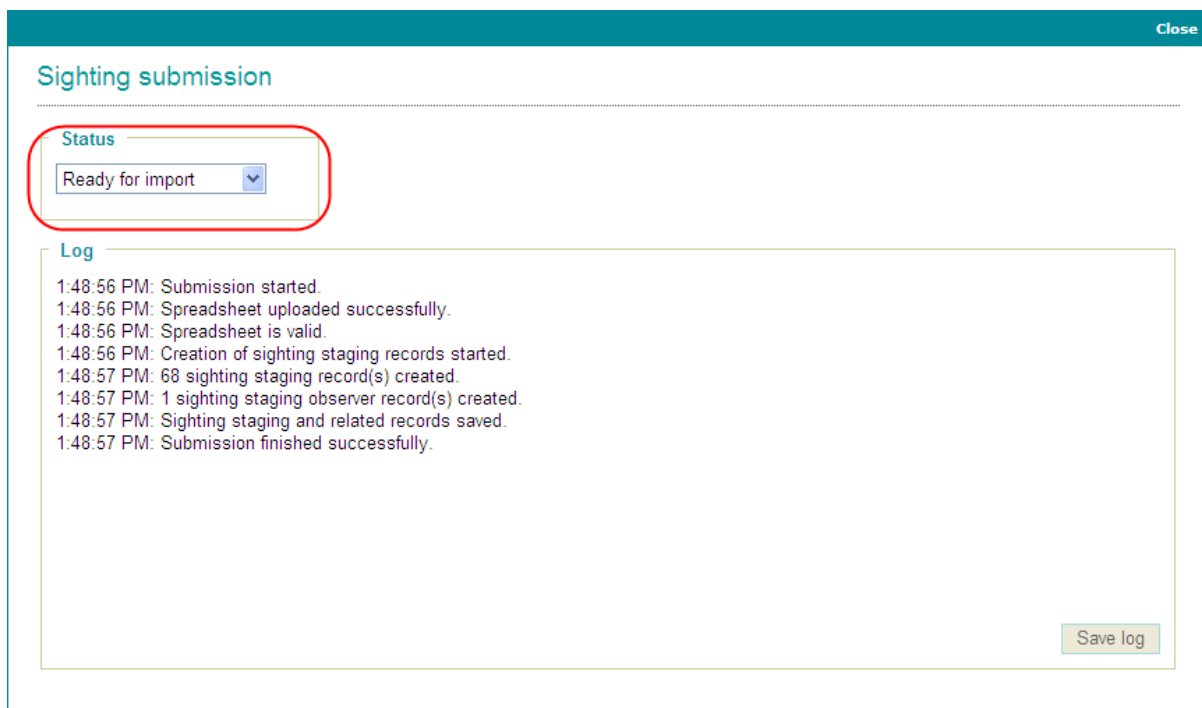


Figure 6.31 Sighting submission ready for import

9. Close the 'Sighting submission' pop-up. You do not need to do anything further.

NB: any files where the Status is listed as **Invalid**, will be ignored by the BioNet team.

6.4 Troubleshooting for Import submissions

Note that you may receive a Status of 'Invalid', without any fields specified in the log (Figure 6.32).

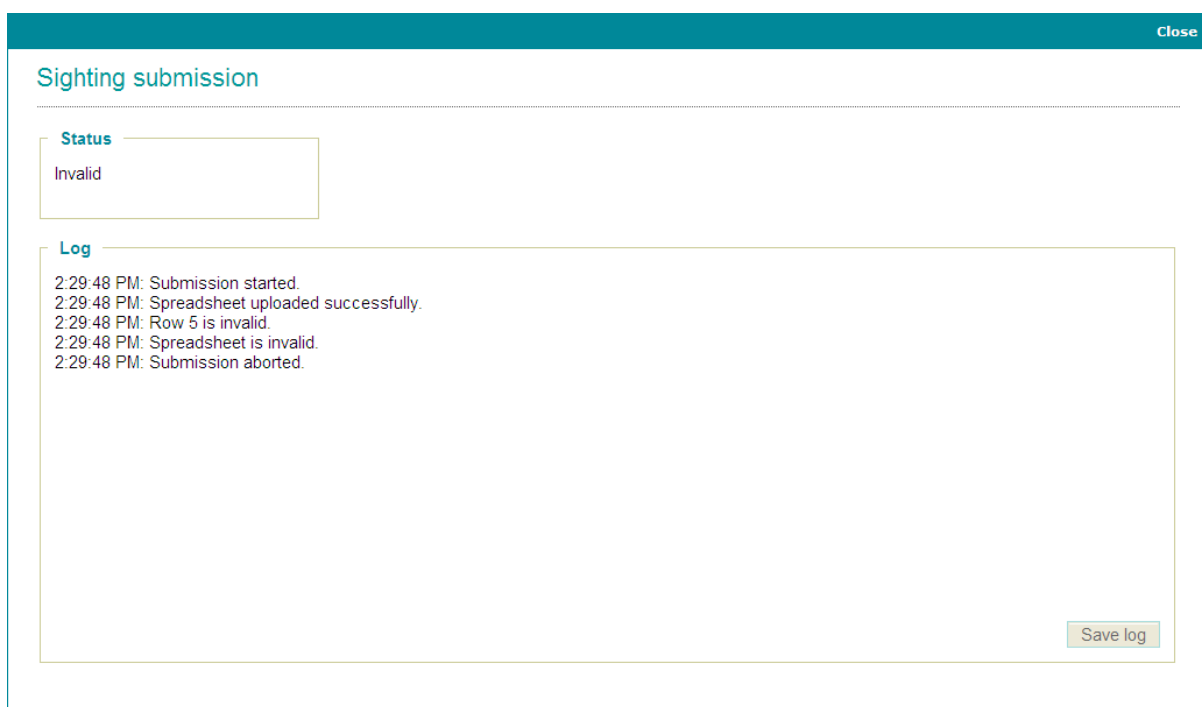


Figure 6.32 Sighting submission unsuccessful

This may occur because you have inadvertently entered a rogue value (such as a space or letter) into another row.

If it is not immediately clear from looking at your '.xls' or '.csv' file as to what may be causing the problem, please contact the [BioNet team](#) for advice.

If you successfully upload a file but later realise you have uploaded the wrong dataset (e.g. a duplicate file, or contains missing details) please email the [BioNet team](#) asap with the file name and date of submission so that the file can be flagged not for import.. Note that any datasets with a Status of 'Invalid' will not be reviewed or imported by BioNet, so there is no reason to advise BioNet of such datasets.

6.5 How are records finally imported into BioNet Atlas?

Once you have received a 'Status' of 'Ready for Import' in the Sighting Submission pop-up, the file is stored in a staging area of the database, awaiting import. The records in the staging area have not yet been assigned sighting keys and will not appear in any searches you undertake.

The BioNet team are the only OEH staff that can finish the import process to incorporate the records into BioNet Atlas. Note that only those submissions flagged as '**Ready for Import**' will be reviewed and imported by the BioNet team. All other submissions that have returned as '**Invalid**' and '**submitted**' will be ignored.

For the file to be imported, this still involves further validation; i.e. random audits of locations, assigning observer details and species details (where necessary) and review of potential duplicates, at which point the BioNet team may contact you if further clarifications are required.

For further details on the final import step undertaken by BioNet staff, refer to Section 28 Bulk imports.

7. Open and edit individual species sightings

Viewing and editing of individual records is carried out within the 'Species Sightings' module. View and edit functions in this module are available to users as outlined in Table 7.1.

Table 7.1 Access to the 'Species sightings' module by User Role

Func.	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biodiv.	OEH Admin
View	N	N	N	N	Y	Y	Y	Y
Edit	N	N	N	N	Y	Y	Y	Y

You can open specific sightings to view the details of the particular sighting or to edit the information for a record you previously entered.

You would **only use this menu if you wish to view/edit a specific record**. If you were searching for all records of a particular species, or wanted to create an Excel file of records, you would need to generate a report from the 'Search' menu (refer to Section 4 'Species sightings search').

7.1 Open sighting

- To open a sighting, choose 'Open sighting' from the 'Species Sightings' dropdown menu (see Figure 7.1).
- In the 'Open sighting' search box (see Figure 7.2), you have the option to search on a particular 'Sighting key', 'Location key', 'Species code', 'Observer', 'External key' or any combination of these. If you type in all (or part) of the value, the database will only search on records that begin with the specified value for that field.



Figure 7.1 Screenshot of 'Open sighting' tab

Open sighting

The image shows a search form for 'Open sighting'. It includes several input fields and a search button. The fields are: 'Species Sighting key' (with radio buttons for 'All', 'Fauna', and 'Flora'), 'Species code', 'Location key', 'Observer', and 'External key'. A 'Search' button is located to the right of the 'External key' field.

Figure 7.2 Open sighting option

Attempting to use the wildcard (%) to return all sightings may take considerable time or may timeout. As only 100 records are displayed per page, it's not a recommended way to

search for sightings. Most commonly, you would know the 'Sighting key' of the sighting you wish to open/edit.

3. Select the appropriate species type (i.e. flora or fauna), type in the unique 'Sighting key' and click on 'Search'. The sighting displays in the result list (see Figure 7.3).

Open sighting 59:51 [Reset time](#)

Species All Fauna Flora Species code Observer Sighting key Location key External key

Results 1-17 of 17 [Show all results](#)

Sighting key	Species code	Common name	Scientific name	Location key	External key	Observers	First date	Status	
SDMP10111000	0679	Satin Bowerbird	Ptilonorhynchus violaceus	LDMP10111000		Deyame Plowman	06/11/2010 00:00:00	Valid and accepted without modification	Review Remove
SDMP10111001	1113	Common Brushtail Possum	Trichosurus vulpecula	LDMP10111000		Deyame Plowman	06/11/2010 00:00:00	Valid and accepted without modification	Review Remove
SDMP10111002	0288	Eastern Rosella	Platycercus eximius	LDMP10111000		Deyame Plowman	06/11/2010 00:00:00	Valid and accepted without modification	Review Remove
SDMP10111003	9947	Rainbow Lorikeet	Trichoglossus haematodus	LDMP10111000		Deyame Plowman	06/11/2010 00:00:00	Valid and accepted without modification	Review Remove

Figure 7.3 Open sighting search result

4. Click on 'Review' to open the sighting (Figure 7.4). The sighting will open in the existing BioNet Atlas window, displaying the 'Sighting' tab folder.
5. Once you have finished reviewing the sighting, click on the 'Back to search' button. A pop-up will appear warning you that any changes you have made will be lost (note that this message displays regardless of whether you have made changes or not).
6. Click on 'OK'. You will be returned to the 'Open sighting' page with your previous search results listed.

Edit Sighting

Observer(s) Location **Sighting** Reference Datasource Graphics

Fields marked with an asterisk (*) are mandatory.

Sighting Key
065000039

Update Sighting

Sighting type* FAUNA FLORA

First date* Time

Common name*

Fauna code*

Observation*

Number Estimate

Last date* Time

Scientific name*

Population

Source*

Sex

Microhabitat types

- AC Flying above canopy
- BR In/on bridge
- BU In building
- CK Crevice in rock
- CL Crevice in log
- DA Farm/fire dam
- DT In dead tree (stag)
- EW Edge of water
- FC In/on post or stump
- FL Flying within canopy
- GR On ground

Breeding types

- Not breeding
- A Adult
- D Distraction display
- E Eggs
- G Gravid
- I Immature (subadult)
- J Juveniles
- L Lactating
- M Nestling
- N Nesting
- P Pregnant

Notes

External key

File location

Status

Validation flags

History

Date created	01/01/1996 00:00:00
Created by	Atlas Conversion
Date Updated	01/01/1996 00:00:00
Updated by	Atlas Conversion

Figure 7.4 Edit sighting window

7.2 Open sightings entered on a particular day to determine if any had been saved to Quarantine

If you wish to review all sightings you have entered on a particular day, you need to know the 3 unique BioNet Atlas letters assigned to your login. These are contained within the sighting key for all records that you enter (as in Figure 7.5).



Figure 7.5 Sighting added successfully

The key 'SDMP12100504' is broken down as follows:

- 'S' refers to a Sighting
 - 'DMP' are the unique user initials for my BioNet Atlas account
 - '121005' refers to the date, in the format YYMMDD
 - '04' is the unique code used to differentiate records entered on the same day. The first record is automatically assigned the last two characters '00', so '04' refers to the fifth record entered that day. Note that after '09' the characters incorporate letters, e.g. 0A, 0B, 0C etc, proceeding through the alphabet.
1. To search on records entered on a particular day, in the 'Open sighting' window (see Figure 7.6) enter the first 10 characters of the sighting key into the Sighting key field.
 2. Click on 'Search'. The results contain a 'Status' column which indicate which records have been saved to Quarantine i.e. 'Invalid, in quarantine' (Figure 7.7).

Open sighting

Species All Fauna Flora Species code Observer
 Sighting key Location key External key

Figure 7.6 Opening sighting key

Open sighting

Species All Fauna Flora Species code Observer
 Sighting key Location key External key

Results 1-1 of 1

Sighting key	Species code	Common name	Scientific name	Location key	External key	Observers	First date	Status
SJJSI0224536	2007	Green Turtle	Chelonia mydas	LJJSI0050521	836	'none provided' Australian Seabird Rescue	23/02/2009 00:00:00	Invalid, in quarantine

Figure 7.7 Results from Open Sighting to determine status

3. Click 'Review' for the records with the Status marked 'Invalid, in quarantine', to determine the reason they have been saved to Quarantine (i.e. either 'out of accepted range', or 'potential duplicates'). The example in Figure 7.8 highlights some records that have been saved to Quarantine because they are flagged as occurring outside of the known accepted distribution.

Edit Sighting

Observer(s) Location **Sighting** Reference Datasource Graphics

Fields marked with an asterisk (*) are mandatory.

Sighting Key
S.JJSI0224536

Update Sighting

Sighting type* FAUNA FLORA

First date* 23/02/2009 Time 00:00:00 Last date* 23/02/2009 Time 00:00:00

Common name* Green Turtle Scientific name* *Chelonia mydas*

Fauna code* 2007 Population

Observation* Trapped or netted Source* Sighting only

Number Estimate Sex

Microhabitat types

- AC Flying above canopy
- BR In/on bridge
- BU In building
- CK Crevice in rock
- CL Crevice in log
- DA Farm/fire dam
- DT In dead tree (stag)
- EW Edge of water
- FC In/on post or stump
- FI Flying within canopy

Breeding types

- Not breeding
- A Adult
- D Distraction display
- E Eggs
- G Gravid
- I Immature (subadult)
- J Juveniles
- L Lactating
- M Nestling
- N Nesting

Notes

Transferred to Australian Seabird Rescue. Released at Lennox head on 26/3/09.

Haering_110311.csv (Row 67)

External key	836
File location	
Status	Invalid, in quar
Validation flags	ACD,

History

Date created	15/06/2016 13:01:50
Created by	Jenny Sherratt
Date Updated	15/06/2016 13:06:22
Updated by	Jenny Sherratt

Figure 7.8 Edit sighting: Status and validation flags

- After reviewing your record, notify the [BioNet team](#) regarding the appropriate action for this record.

7.3 Edit sighting

You can view all sightings for which your group has been assigned view access. However, you can only edit those records which are attached to a dataset for which you have edit access. And even then, you should generally only ever edit a sighting which either you have entered or are the observer for, or if there is an obvious typo which is straightforward to correct.

You can edit details within any of the tab folders.

- If you wish to edit details within the 'sighting' tab folder, save the changes by clicking on 'Update sighting'. A pop-up will advise you that the sighting has been updated successfully.
- If you wish to edit any of the details within the 'observer(s)', 'location' or 'reference' tab folders, a windows Internet warning message will pop-up advising you that the Observer/Location/Reference may be attached to other sightings and any changes you make will affect those sightings also.

Note that if you edit the observer(s), location, reference or datasource tab folders, (but nothing in the 'Sighting' tab folder) you would still need to click on 'Update sighting' in the Sighting tab folder to save the changes and re-validate the sighting against any new details. Note that each time you edit the spatial details of a sighting (i.e. the details within the Georeference box in the Location tab folder), the database will re-validate the sighting. Depending on the changes, this may result in a quarantined record being automatically accepted from quarantine, or vice versa.

Part C Systematic Flora surveys

View and edit functions in this module are available to users as outlined in Table C.1.

Table C.1 Access to Flora surveys module by User Role

Func.	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Data Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	Y*	Y	Y	Y	Y	Y	Y	Y
Edit	N	N	N	Y	Y	Y	Y	Y

* Public users can search the flora survey module by clicking on the 'VIS Flora Survey' tab at the top of the [BioNet homepage](#), or directly at http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/YETI_/FloraSearch.aspx

Note, while all users have view access to the 'Flora surveys' module, the interface differs for Public versus users with a secure login. The screenshots and instructions following are geared towards users with a secure login.

8. Background

The Flora surveys module is designed to be a single-point-of-truth data repository for vegetation plot data collected in association with NSW Government vegetation mapping, community classification and condition assessment and monitoring projects. Detailed information about the fields captured by the Flora surveys module may be found within the [Native Vegetation Interim Type Standard document \[PDF 1.7MB\]](#).

Refer to Figure 8.1 for an overview of the 'Flora surveys' module in relation to the BioNet system.

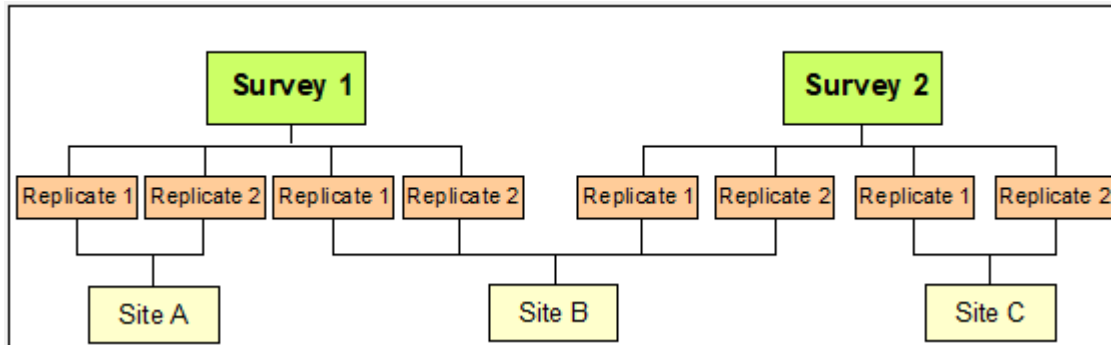


Figure 8.1 Flora surveys data model

8.1 Structure of the data stored in the 'Flora surveys' module

The data are held in the database in a relational manner. This means that there are certain elements of each record that identify it uniquely within a database table. Information for a record may be stored in several tables. The tables in the database relate to each other via key fields.

Structurally, the data has the following format:

[Survey [Site [Replicate [subplot]]]]]

Where a '**subplot**' is part of a '**replicate**', which is part of a '**site**' (either temporally or spatially) and sites are a spatial element within a '**survey**'.

In this model, a particular geographical location can only have one site. The site name does not change if two or more surveys need to access the same location. Thus, a site may be associated with multiple surveys. The key linkage is a replicate, which creates the relationship between a survey and a site (Figure 8.1).

The '**survey**' defines how the basic components of the data are arranged. A single survey should consist of a block of vegetation survey carried out with a consistent methodology (e.g. a common cover scoring system), usually by a limited set of recorders in a bounded spatial area (which may be as large as a bioregion or as small as a single property).

The information captured in the database when establishing the survey determines how the data will be reported. This information is the basic metadata of the survey and should be as complete as possible to allow others at a later date (which may be some decades later) to understand how the survey was conducted and any specific methods employed. It is important to keep this metadata updated, especially with regard to reports (published or otherwise) that may come from the work.

A '**site**' is a specific location assessed by the methods referred to within the survey data. It is usually of limited extent (often 20 x 20m or 20 x 50m in size) and may be visited once or on

multiple occasions. The location information and position in space is captured, while the intersection with administrative boundaries (such as local government area or IBRA region) is automatically populated. It also has the capacity to capture the identification and form of any permanent marker and the stratification unit.

An array of physical information about the site may also be stored at the site level, including physiographic characters that are not likely to change (geology, soil depth, slope and aspect) as well as elements of the community definition and disturbance.

A site defines a particular location, so it may be present within a number of different vegetation surveys with differing methods, or even in a mix of flora and fauna surveys. While they are usually unique, it will occasionally be found that a site is listed in a number of different surveys. In that situation **care needs to be exercised to ensure the correct survey is selected when viewing the data.**

Due to this feature a site will **not** be linked to any particular survey until a replicate is created and linked to a survey and its methodology. For this reason, it is in your best interests to enter site details once you have some replicate data to enter to ensure that the link to the survey is retained.

A '**replicate**' refers to an assessment conducted within a survey at a designated site at a specific time. Replicates form the primary source of data for a survey - capturing detailed groundcover, vegetation and site assessment (i.e. history, disturbance and land use) information. Any photography taken at the site will be stored against the appropriate replicate.

Replicates record site data that could potentially change over time. The methodology for capturing data within replicates is defined at the survey level (i.e. scoring methods, and plot design) and so should remain consistent between replicates. Although a site may be listed within multiple surveys a replicate number must be qualified by survey and site number to form a unique reference. For this reason, care needs to be taken to ensure that the correct survey and site are selected prior to entering any replicate details.

'**Subplots**' are spatial segregations within a replicate and record vegetation information. They are applicable only if your survey used a nested, or contiguous plot design. Individual subplots are smaller spatial units of a site undertaken during a single replicate. By default, a survey not using subplots will have any replicate data allocated to subplot 1.

9. Navigating the ‘Flora surveys’ module

Section 9 introduces the main pages contained in this module. To navigate sequentially through the pages, refer to the more detailed instructions contained in Section 10.

The following screenshots are for users with a secure login. Note the same information can be accessed as a Public users, however the fields are displayed differently.

At the top of the screen there is a menu bar listing the various modules available within the BioNet Atlas application. Hover over the ‘Flora surveys’ module and a dropdown with three options will appear (see Figure 9.1).

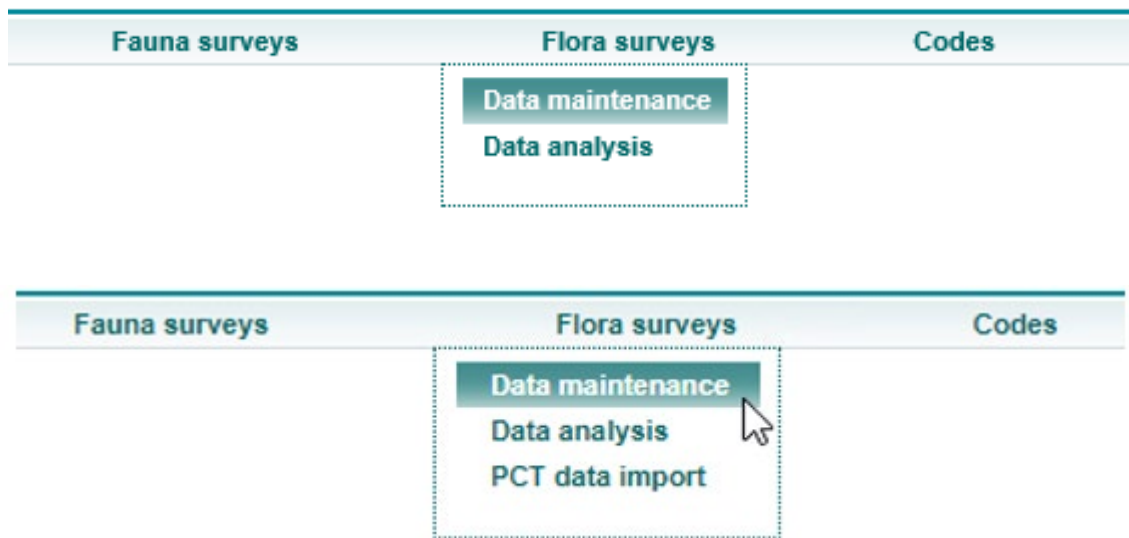


Figure 9.1 ‘Data maintenance option’ under ‘Flora surveys’ (top); additional option ‘PCT data import’ available to users with ‘Classification Role (bottom)’

‘**Data maintenance**’ will direct you to the ‘Data maintenance’ page. From here you can search, edit or create new surveys, sites and/or replicates depending on the level of access that you have.

‘**Data analysis**’ will allow you to create structured queries for meaningful data extractions from the database.

‘**PCT data import**’ will allow Classification users to upload and import PCT data and PCT replicate data.

9.1 ‘Data maintenance’ page

1. When using the ‘Flora surveys’ module, it is likely that the first page you see will be the ‘Data maintenance’ page (see Figure 9.2). This page contains two tabs – a ‘Surveys’ search tab and a ‘Sites’ search tab.
2. From here you can search for existing surveys and sites saved within the module (see Section 10.2, survey searches, for steps). Those users with edit access will also be able to create new surveys or sites on this page.

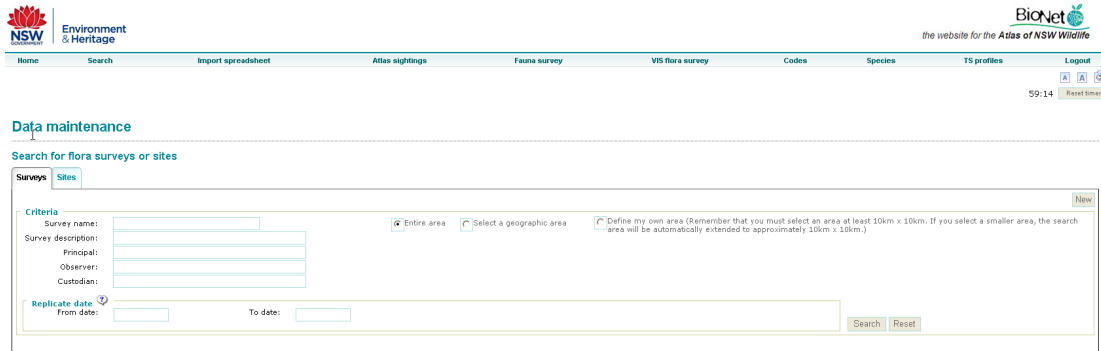


Figure 9.2 'Data maintenance' page of 'Flora surveys'

9.2 'Flora survey' page

The 'Flora survey' page is used to review the details of previously saved surveys stored within the 'Flora surveys' module (see Figure 9.3). This page contains eight tabs of information, with the 'General' tab opening by default. Users with edit rights may also make changes to survey details from this page, and its associated tabs.

Flora survey

Survey name: A_VAMP

Note: fields marked with * are required

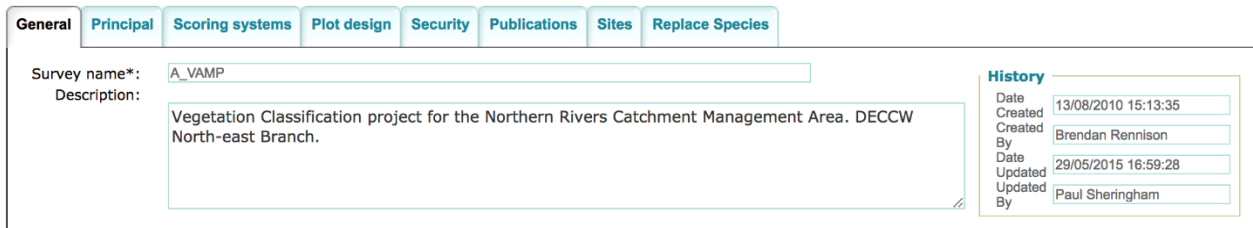


Figure 9.3 The 'Flora survey' page

9.3 'New Flora survey' page

This page is visible to users with edit access. It is also currently visible to users with a Sensitive Species Data Licence (see Figure 9.4). It allows for the creation of new surveys to be saved within the Flora surveys module.

New flora survey

Note: fields marked with * are required

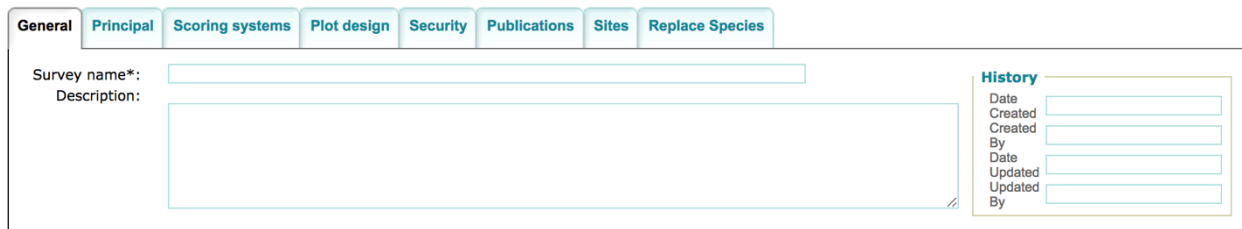


Figure 9.4 'New Flora survey' page

9.4 'Flora surveys' site page

See section 10.3, site searches, for steps to get to this page.

The 'Flora surveys site' page may be used for creation, editing and review of sites saved to the Flora surveys module (see Figure 9.5). From this page you will be able to access the details of any replicates which have been identified for the survey at that site (selected from the 'Replicate' dropdown field). The 'Replicate' page contains all the floristic data.

Location
Physiography
Survey specific
Transect
Mapping
Other

Location Key: LPJGI0172480

Description
 Korora Nature Reserve 100m south of Korora Basin Road west of Pacific Hwy.

Georeference
 Co-ordinate system: GDA94 GPS
 Original unit type: MGA Coordinates

Projected co-ordinates	
Zone	56
Easting	512588
Northing	6653253
Accuracy(m)	10.0000

Geographic co-ordinates		
Degrees	Latitude	Longitude
Minutes	-30	153
Seconds	15	7
	8.2	51.1
	-30.252272789	153.130848515

Location attributes
 Geology type: Sand/Clay/Alluvium
 Structural formation:
 Vegetation formation:
 Confidence:
 Slope of area: 5
 Aspect of area: 30
 Altitude:

History
 Date created: 17/08/2010 16:03:03
 Created by: Karen Caves
 Date Updated: 31/03/2011 10:52:00
 Updated by: Paul Sheringham

Notes

Calculated area(s)

Layer Type	Area Name
LGA	COFFS HARBOUR
Reserve	Kororo NR
Mapsheet Number	9537 - COFFS HARBOUR
Mapsheet Number	9537-3-N - COFFS HARBOUR
CMA	Northern Rivers
IBRA Subregion	NSW North Coast - Coffs Coast and Escarpment
Bioregion	NSW North Coast (NSW)
Botanical Division	North Coast
Mapsheet Name	COFFS HARBOUR (9537)
Mapsheet Name	COFFS HARBOUR (9537-3-N)
BFMC	Mid North Coast
Local Land Service	North Coast

Figure 9.5 'Flora surveys' site page

9.5 'Replicates'

The 'Replicate' page may be used for creating, editing and reviewing any replicate details saved to the 'Flora surveys' module (see Figure 9.6). The data stored here includes floristic and time specific data.

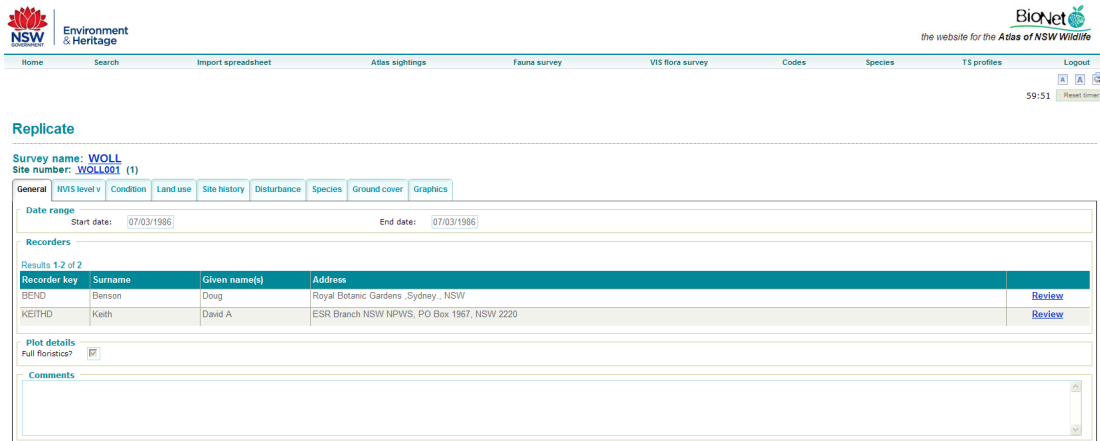


Figure 9.6 The 'Replicate' page

9.6 'New replicate' (census)

The 'New replicate' (census) page is accessible only to users who have signed a Data provider agreement and been granted edit rights to surveys within the 'Flora surveys' module (see Figure 9.7). It is used for the numbering of new replicates.

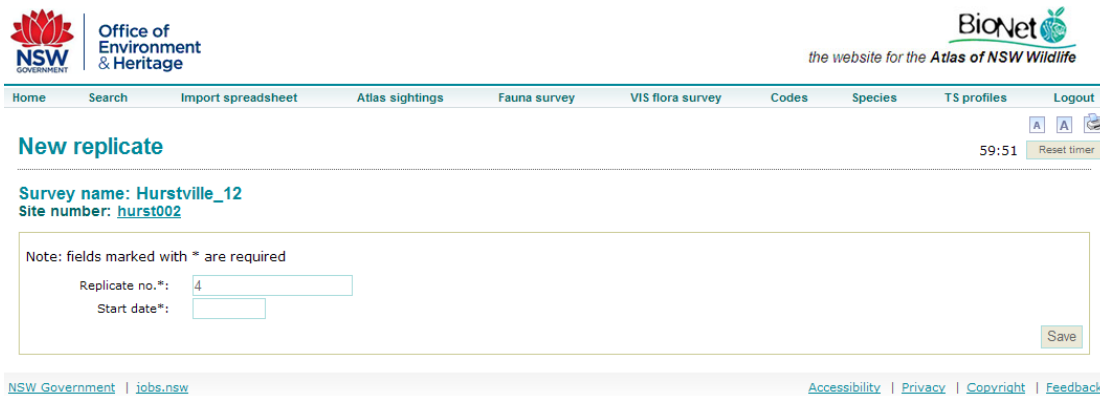


Figure 9.7 'New replicate' (census) page

10. Searching the ‘Flora surveys’ module

This section deals with the search capabilities of the ‘Flora surveys’ module.

The database can be searched at the ‘Survey’ or ‘Site’ level.

As previously mentioned, the screen varies between the Public and Secure applications. The public view is shown in Figure 10.1, while the secure view is shown in Figure 10.2. The following instructions capture screenshots from the secure application.

Figure 10.1 ‘Data maintenance’ page for a Public user

Data maintenance

Search for flora surveys or sites

Figure 10.2 ‘Data maintenance’ page for a user with a secure login

For most searches the wildcard is %. This cannot be used to search on start dates.

10.1 Finding particular datasets

Please note this section assumes some familiarity with the fields available for view within each of the tiers within the 'Flora surveys' module. For further information about specific fields please refer to Section 11 Entering flora survey data, or the [Native Vegetation Interim Type Standard document](#).

Note the two tabs available: 'Surveys' and 'Sites', allow you to search data at either Survey, or Site level (see Figure 10.3). Note that the default geographic search area covered by the database.

Data maintenance

Figure 10.3 'Data maintenance' search page

You may also carry out spatial searches by narrowing down the geographic search area to either a predefined geographic area (e.g. by local government areas (LGA)) or by defining your own custom area.

10.2 Survey searches

The default search mode is a Surveys search.

There are several searchable fields available at this screen:

- 'Survey name': the Survey's unique identifier. If you are looking for a specific survey, then this is the recommended search field. There is no look-up list.
- 'Survey description': a free text field containing information about the survey.
- 'Principal': the principal surveyor and primary contact for the survey. The details for this person are stored in an 'Observer' table.
- 'Observer': Observers that were involved in the survey. Each survey will have one or more observers.
- 'Custodian': searches for the organisation responsible for a dataset. This will pull up surveys stored in Flora surveys which are attributed to the specified custodian.
- 'Replicate start dates': You may either enter the dates manually in the format dd/mm/yyyy or select the desired date(s) from a pop-up calendar by clicking in the date box to display the calendar pop-up.

Be aware that **both** the 'From' and 'To' searchable dates relate to the earliest and latest **start dates** for surveys/sites/replicates. These fields search on the start dates of all replicates within a survey. If the start date of any replicate within a survey satisfies the criteria entered then the relevant survey appears in the results. For this reason, your search

may return results with a start date earlier than the specified From date, or a start date later than the specified 'To date'.

For example, submitting the search criteria 'From date 07/08/2005' may return a survey with the start date 1/01/1990 and an end date 4/03/2010. This is due to the replicate with the end date (4/03/2010) satisfying the specified criteria.

Not all fields are mandatory to conduct a search. To view all surveys/sites which are visible you can simply and hit 'Search' or 'Go'. Note that entering the wildcard (%) in any text box will returns all those surveys which contain a value for that field.

The query will display 50 results per page listed alphabetically by survey name (see Figure 10.4).

Survey name	Description	Start date	End date	Custodian	No. of sites	Sites	New site	Review
GOULRIV	Goulburn River National Park (Lisa Hill/Steve Bell 1998)	01/03/1995	01/11/1998	Office of Environment and Heritage	136	Sites	New site	Review
GRAN	John T Hunter Granite Surveys	05/01/1994	01/08/1997	University of New England	521	Sites	New site	Review
GRASSTREE	Survey of Grasstree Ridge quarry proposal, Muswellbrook	26/08/2004	30/11/2004	Eastcoast Flora Survey (Stephen Bell)	5	Sites	New site	Review
GRAVESEND	Full floristic survey of the Gravesend 1: 100 000 sheet as part of the NVMP	26/09/2000	19/09/2001	Inverell Research Centre (Soil Con - DLWC - DECCW)	168	Sites	New site	Review
GRAZCW	Grazing research project in central west catchment. Each surveyed property contains 4 sites. Each site is a 50 x 50m plot. Four sub-plots were surveyed at each corner where full floristics and cover abundances were completed. Two 40m transects were completed for groundcover and dung	01/12/2011	15/02/2012	Office of Environment	86	Sites	New site	Review

Figure 10.4 Search results for surveys highlighting alphabetical sorting and ellipses.

You have different ways to navigate the results (see Figure 10.4):

- Clicking any of the numbers at the top of the search results section will take you to the results displayed on that particular page. This is the most common mode of navigating between pages.
- The ellipsis '(...)' will open the next set of results. If used, an ellipsis at the beginning of the list of pages will appear, allowing you to open earlier pages.
- An 'X' will take you to the last page of results.

The results table generated has nine columns:

- 'Survey name': the survey's unique identifier. This is a link enabling you to access the Flora surveys page.
- 'Description': provides any extra detail the survey creator thought pertinent to include.
- 'Start date': the **earliest** start date of the replicates linked to the survey.
- 'End date': the **latest** end date of the replicates linked to the survey.
- 'Custodian': lists the name of the custodian responsible for the survey.
- 'No. of sites': lists the number of sites linked to that particular survey.
- 'Sites': allows users to open the sites details for a particular survey.
- 'New site': allows edit users to create a new site for a survey.
- 'Review': allows users to review and edit a survey.

Clicking a 'Review' link in the results table takes you to the 'Flora survey' page (Figure 10.5).

Flora survey

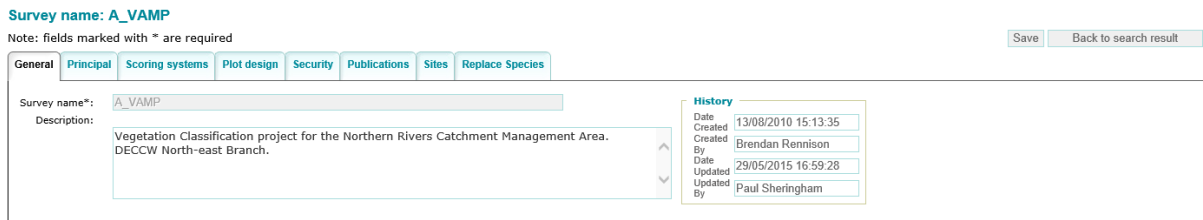


Figure 10.5 The ‘Flora survey’ page; the number of tabs visible varies between user role

The ‘Flora survey’ page contains the following tabs:

- ‘General’: displays a description of the survey. The history of the survey is also displayed here.
- ‘Principal’: the principal surveyor and primary contact for the survey.
- ‘Scoring systems’: contains information about the scoring methodology used for vegetation cover and abundance assessments. The scoring methods marked here are used consistently throughout the survey and reflected in the ‘Species’ tab of the ‘Replicate’ page.
- ‘Plot design’: information on the plot design methodology of the survey.
- Security: contains information about where the survey is stored within Flora surveys (dataset) and the custodian.
- ‘Publications’: bibliography information about the report which forms the survey or to which the survey data was contributed. Author(s), title and publisher details are provided here.
- ‘Sites’: contains a table listing the sites linked to the survey. This page is similar to using the ‘Site search’ radio button of the ‘Flora surveys’ search page with search results filtered for the selected survey.
- ‘Replace species’: allows observers to change species identified as unknown in the field, to a valid species name.

10.3 Site searches

Sites can be searched by clicking the ‘Site’ tab, then ‘Search’, or the ‘search’ radio button on the ‘flora surveys’ page (see Figure 10.6).

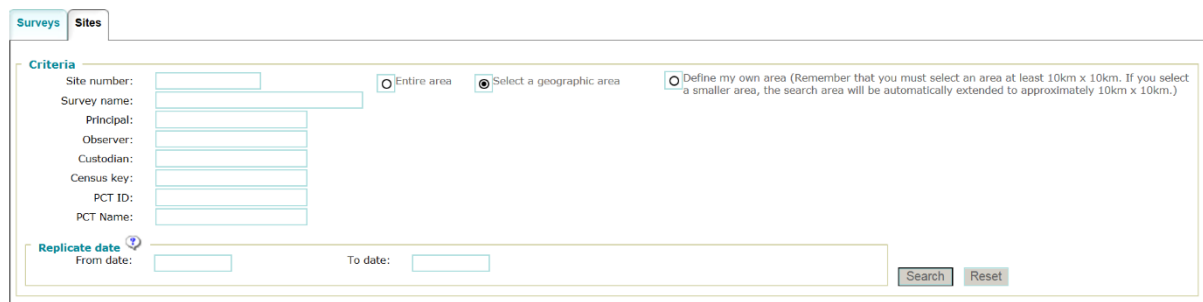


Figure 10.6 ‘Site search’ tab

The ‘Sites’ page displays the same criteria as the survey search option, with the addition of the following new searchable fields:

- ‘Site number’: the unique identifier for the site.
- ‘Census key’: a unique key assigned to a site, survey and replicate combination.

- ‘PCT ID’: the Plant Community Type ID associated with the site.
 - ‘PCT Name’: the Plant Community Type name associated with the site.
1. As with surveys, you can conduct a search for all sites available within the database by entering the wildcard (%) in to any of the available search fields and pressing ‘Search’.
 2. As an individual site may occur within more than one survey, the results list differs to that seen in a survey search. Each row of results has a ‘+’ symbol, which enables you to expand each result (see Figure 10.7).

Site number	Locality description				PCT ID	PCT Name
+	SALT1				0	N/A
	Saltwater Creek at Kincumber					
Survey name	Description	Start date	End date	Custodian	Review site	Review
SALTWATER	Lot 13 Avoca Valley Way Kincumber on Saltwater Creek	26/10/2004	01/11/2004	Ecological Surveys and Management Pty Ltd (Robert Payne)	Review site	Review

Figure 10.7 Results from a ‘Sites’ search on the ‘Flora survey’ page

3. The expanded view contains links to both the site and its parent survey. As with the Survey search results, the ‘Review’ link is an active link that directs you to the ‘Flora survey’ page.
4. Clicking on the ‘Review site’ link takes you to the ‘Flora survey site’ page.

10.4 ‘Flora survey site’ page

The ‘Flora survey site’ page contains six navigational tabs:

- ‘Location’: displays coordinate and attribute details of the site’s location.
- ‘Physiography’: displays physical attribute information about the site.
- ‘Survey specific’: stratification and site marker details.
- ‘Transect’: displays the coordinates for any groundcover transects conducted on site.
- ‘Mapping’: displays aerial and satellite imagery information.
- ‘Other’: miscellaneous site attributes.

It is also worth noting the top left of screen at this page which details the Site’s hierarchy (see Figure 10.8).

Flora survey site

Survey name: [SALTWATER](#)
 Site number: SALT1

History

Date Created	10/01/2007 17:54:24
Created By	Philip Gleeson
Date Updated	15/06/2010 15:57:23
Updated By	Greg Steenbeeke

Replicates

Existing replicates:

Note: fields marked with * are required

Location
Physiography
Survey specific
Transect
Mapping
Other

Transect start

GDA94

Projected co-ordinates		Geographic co-ordinates	
Zone	Easting	Latitude	Longitude
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Transect end

GDA94

Projected co-ordinates		Geographic co-ordinates	
Zone	Easting	Latitude	Longitude
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Orientation (degrees): Transect length (m):

Figure 10.8 Site hierarchy for a 'Flora survey site'

This is a particularly useful function as the 'Survey name' is a link you may use to review the survey's details. This is also a useful mechanism to confirm you are looking at the site within the correct survey as some sites may appear in multiple surveys.

10.4.1 'Location' tab

The 'Location' tab is split into five sections (see Figure 10.9):

- 'Description'
- 'Georeference'
- 'Notes'
- 'Calculated area(s)'
- 'Location attributes'
- 'History'.

Further information on each field contained within each section may be found in Table 10.1.

Flora survey site

Survey name: **SALTWATER**
 Site number: SALT1

Replicates

Existing replicates:

History

Date Created	10/01/2007 17:54:24
Created By	Philip Gleeson
Date Updated	15/06/2010 15:57:23
Updated By	Greg Steenbeeke

Note: fields marked with * are required

Location

Physiography

Survey specific

Transect

Mapping

Other

Location Key: LPJG0222957

Description
 Saltwater Creek at Kinumber

Georeference

Co-ordinate system: GPS
 Original unit type:

Projected co-ordinates	
Zone	56
Easting	352144
Northing	6294016
Accuracy(m)	100.0000

Geographic co-ordinates		
	Latitude	Longitude
Degrees	-33	151
Minutes	28	24
Seconds	59.3	30.9
	-33.483147654	151.408579733

Location attributes

Geology type:

Structural formation:

Vegetation formation:

Confidence:

Slope of area:

Aspect of area:

Altitude:

History

Date created:	10/01/2007 17:54:24
Created by:	Philip Gleeson
Date Updated:	15/06/2010 15:57:23
Updated by:	Greg Steenbeeke

Notes

Calculated area(s)	
Layer Type	Area Name
LGA	CENTRAL COAST
Mapsheet Number	9131 - GOSFORD
Mapsheet Number	9131-2-S - GOSFORD
CMA	Hunter-Central Rivers
IBRA Subregion	Sydney Basin - Wyang
Bioregion	Sydney Basin (NSW)
Botanical Division	Central Coast
Mapsheet Name	GOSFORD (9131)
Mapsheet Name	GOSFORD (9131-2-S)
BFMC	Gosford
Local Land Service	Greater Sydney

Figure 10.9 The 'location' tab of the 'Flora survey site' page

Table 10.1 Descriptions of the fields used in the 'Locations' tab of the 'Flora survey site' page

Flora survey site section	Field	Description
Description	Description	Detailed description of the geographic location, such as place name, street, nearest cross-street, landmark or location within a reserve.
Location attributes	Geology type	Dominant geology type present on site
	Structural formation	Details the dominant plant form and the percentage of foliage cover of the tallest plant layer
	Vegetation formation	Details the dominant vegetation formation present on site.
	Confidence	Details the confidence of the identification of the Vegetation Formation.

Flora survey site section	Field	Description
Georeference	Slope of area	Slope from the horizontal in degrees. If no data was provided, then this field will display N/A.
	Aspect of area	Aspect of the site in degrees. If no data was provided, then this field displays N/A.
	Altitude	information about the vertical height of the site, in metres. If no data was provided, then this field will display N/A.
	Coordinate system	Datum of the coordinates are displayed on-screen.
	GPS	If a GPS was used to obtain the coordinates the box is checked. If a GPS was not used it is blank.
	Original unit type	Datum and coordinate type (i.e. projected, or geographic) in which the coordinate data was originally submitted.
	Projected coordinates	Coordinates as Zone – two digits. Easting – six digits. Northing – seven digits.
	Geographic coordinates	Coordinate data in Latitude/Longitude.
	Accuracy	How accurately the coordinates represent the exact location of the site (in metres). For example, a value of 100 would mean that the location is accurate to the nearest 100m. If you used a GPS the accuracy will have been displayed on-screen.
Notes		Any additional location notes about the site. This field is typically blank.
Calculated area(s)		A table listing various layers and identifies the area(s) that the site's coordinates fall within for each layer (see Figure 10.10).

As well as containing coordinate information the Georeference section has a link that allows you to view a map of the location.

If you click the 'Search map symbol' as displayed in Figure 10.10, a pop-up will appear with a map and your site's location marked).


Geographic co-ordinates		
	Latitude	Longitude
Degrees	-33	151
Minutes	28	24
Seconds	59.3	30.9
	-33.483147654	151.408579733

Figure 10.10 To view the site's location on a map click the circled button

10.4.2 'Physiography' tab

The 'Physiography' tab describes the physical features of the site. Brief descriptions of each field are provided in Table 10.2. If no data exists for a particular field, then the field will be blank.

Table 10.2 Attributes of the fields available in the 'Physiography' tab of the 'Flora surveys' site page

Field	Description
Morphological type	Form of the land at the plot site
Landform element	Dominant landform element within a 20m radius of the site centre
Soil colour	Soil colour at the site, as determined by Munsell code
Soil depth	Estimate of the depth of soil at the site (in metres)
Name of nearest water	Name of the nearest water body
Distance to nearest water	Distance (in metres) from the plot centre to the nearest point of the water body
Landform pattern	Dominant landform present within a 300m radius of the site
Soil surface texture	Indicates the ratio of sand, silt and clay sized particles in the soil. Field texture is determined by the behaviour of a ball of moistened soil
Microrelief	Information about localised, naturally occurring, small (<1m approx.) and abrupt changes in relief; conditions such as Gilgai, mound springs and hummocking

10.4.3 'Survey specific' tab

This tab is split into two sections:

- Stratification – provides details whether or not the site location was selected within a broader stratification (e.g. environmental) as part of the overall sampling strategy. If no data were entered, then the field will be blank.

- Site marker – this section provides details about the type of site marker used, and its position on site. If no data exists for these fields then the fields will be blank, or 'N/A'.

10.4.4 'Transect' tab

This tab displays information about specific coordinate information for any ground cover transect done within the site.

The tab is split into three sections:

- The top of screen displays the start coordinates of the transect, as both projected and geographic coordinates. The datum also appears here.
- The middle section displays the end coordinates of the transect, as both projected and geographic coordinates. The datum also appears here.
- The base of the page provides details about the transect length (in metres) and its orientation (in degrees).

If no data exists for any field then the fields will be blank, or 'N/A'.

10.4.5 'Mapping' tab

This tab provides details about any associated aerial photo and/or satellite imagery mapping information regarding the site.

If no data exists for any field then the fields will be blank, or 'N/A'.

10.4.6 'Other' tab

This tab provides any extra data that exists about the site which was not appropriate to enter in earlier tabs. If no data exists for any field then the fields will be blank, or 'N/A'. Further details about each field may be found in Table 10.3.

Table 10.3 Description of the fields available in the 'Other' tab of the 'Flora survey site' page

Field	Description
Horizon azimuths (degrees)	Angle at which the horizon can be seen from each of the eight cardinal compass points, i.e. the lowest point at which the sky is visible.
Horizon visibility	Description of the visibility of the horizon.
Tenure	Predominant tenure status of the site.
Geological map	Geology as defined by geological map.
User-defined geological map	Geological map.
Geology observed at the site	If the field observations of geology conflicted with those suggested by the geological map the surveyor will have provided their observations here.
Geomorphological action	Predominant geomorphological action that shaped the site.
Amount of outcropping %	Percentage of rock attached to or itself presumed to be bedrock substrate.
Amount of surface rock %	Percentage of any other exposed surface rock on site that is ≥ 20 mm.

Once you have reviewed (and edited, if necessary) the information at the site level you may wish to review (and edit, if necessary) details of the survey's replicates linked to that site. This may be done using the dropdown menu at the top left of the screen (see Figure 10.11). This section will also contain a link to the 'Flora surveys' page (in the form of the Survey code; e.g. SALTWATER in Figure 10.11).

Flora survey site

Survey name: [SALTWATER](#)
 Site number: [SALT1](#)

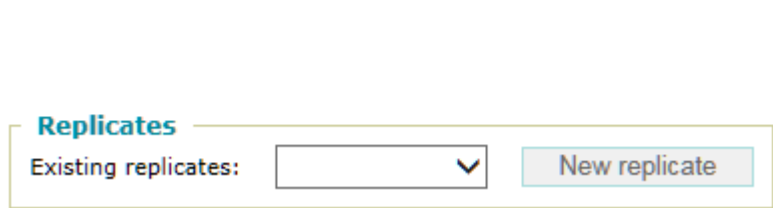


Figure 10.11 Hierarchy available at the top left of page

10.5 Replicate searches

The only method to access the 'Replicate' page of the 'Flora surveys' module is by accessing the relevant site and selecting your desired replicate from the replicates dropdown menu.

In the replicates dropdown menu available on the 'Flora survey site' page select the relevant replicate to navigate to the 'Replicate' page, as illustrated in Figure 10.12.

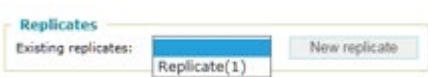


Figure 10.12 The replicate dropdown of the 'Flora survey site' page

As with the 'Flora survey site' page, the top left of the page will list a replicate hierarchy, detailing 'Survey name' and 'Site name'. Both 'Survey name' and 'Site number' will be links that you may use to navigate up to either level.

Notice that the number of the replicate you are currently viewing will appear in brackets after the 'Site number' (see Figure 10.13). Also note that the census key is added once the 'Replicate' is selected.

Replicate

Survey name: [SALTWATER](#) [Change](#)
 Site number: [SALT1](#) (1)
 Census key: [CPJGI0118612](#)

Figure 10.13 Survey/Site hierarchy visible on the 'Replicate' page

Please pay attention to this hierarchy to ensure you are viewing replicates within the appropriate survey.

Below the replicate hierarchy are fields relating to attribution of a PCT to the replicate (see Figure 10.14). If the fields are blank, a PCT has yet to be attributed. PCT attribution, editing and removal can only be undertaken by Classification Users.

PCT Information

PCT ID: 12	PCT Name : Shallow marsh wetland of regularly flooded depressions on floodplains mainly in the semi-arid (warm) climatic zone (mainly	Class : Maritime Grasslands	Search New Edit
---------------	--	--------------------------------	-----------------------

Figure 10.14 PCT fields visible on the ‘Replicate’ page

The tabs available for viewing at the ‘replicate’ level are:

- ‘General’: contains the start and end dates and details of the plots used.
- ‘NVIS level V’: information regarding strata percent cover and respective minimum, maximum and mode heights. The dominant species that comprise each listed stratum will be available for view under the stratum headings.
- ‘Condition’: site condition with respect to natives, exotics, tree hollow abundance, tree health and woody regeneration.
- ‘Land use’: information about the primary land use, upper and lower stratum land cover types and age structure.
- ‘Site history’: provides information on the management history.
- ‘Disturbance’: provides details about the disturbance history of the area.
- ‘Species’: displays species data recorded within each plot.
- ‘Ground cover’: provides a quantitative list of groundcover attributes.
- ‘Graphics’: provides image description, photographer name and a thumbnail of any photos. If there are no graphics associated with that replicate, then a ‘No records available’ message will appear.

Please note that in order to create a replicate only a replicate number and start date need to be assigned. If there is no data in the replicate you are viewing, it is possible that the person who created the replicate has neglected to enter their data. If the replicate data is patchy it may be that there was insufficient data to complete every available field.

If you feel that there is a significant aspect of the dataset missing please contact the [BioNet team](#).

10.5.1 ‘General’ tab

The first tab you will see when you navigate to the replicate page will be the ‘General’ tab, which contains information about the start and end dates and details of the plots used (see Figure 10.15).

General NVIS level v Condition Land use Site history Disturbance Species Ground cover Graphics

Note: fields marked with * are required

Date range
 Start date*: 26/10/2004 00:00:00 Select date End date*: 26/10/2004 00:00:00 Select date

Recorders

Results 1-1 of 1

Recorder key	Surname	Given name(s)	Address
UNKN	unknown	'none provided'	

Plot details
 Full floristics?

Plot size settings
 Simple Unspecified Other

Size options
 20x20m 20x50m Other

Plot Sizes

Plot number	Plot size
1	20x20m

Comments
 May contain only 500 characters long.

Figure 10.15 The ‘General’ tab of the ‘Replicate’ page

As you can see in Figure 10.15, the page is split into four sections:

- ‘Dates’: listing the start and end date of the individual replicate being reviewed.
- ‘Recorders’.
- ‘Plot details’: This section is split into a further two components:
 - ‘Plot size(s)’. This component lists the dimensions of the plots used throughout the replicate. When more than one subplot is present these will appear as in the following example. e.g. 1:75m radius; 2:75m radius. Where the colon (:) separates the subplot number from the dimension. Individual subplots are separated by a semicolon (;). In this instance the first subplot is 75m in radius, the second subplot is of the same dimensions (75m).
 - ‘Full floristics’. If this check box is ticked, then a full floristics analysis was conducted for that replicate. If the box is blank then the species list in the ‘Species’ tab should not be considered a comprehensive list for the area covered by that replicate as the analysis was targeted to specific species, or stratum only.
- ‘Comments’: if the replicate used non-standard plots then details of these will be found in this component of the ‘General’ tab.

10.5.2 ‘NVIS level V’ tab

The National Vegetation Information System ‘(NVIS) level V’ tab displays information about the strata and sub-strata present while the replicate was conducted. In addition to this it lists details on the dominant species of each stratum (or sub-stratum) identified (see Figure 10.16).

Strata (including sub-strata) information may be viewed in the primary table with the olive background. If the species information is confusing you may like to minimise the table so that only the strata are visible. This is achieved by clicking the ‘–’ button (circled in Figure 10.16).

Strata type	Lower height (m)	Mode height (m)	Upper height (m)	% cover	
Hid stratum 1 (upper)	15.00		18.00	30.0	Review Remove
Species synonym (code)					
Growth form					
New					
Syncarpia glomulifera (5028)					Review Remove
Cryptocarya microneura (3483)					Review Remove
Allocasuarina torulosa (2817)					Review Remove
Lower stratum 1 (upper)	1.00		2.00	50.0	Review Remove
Species synonym (code)					
Growth form					
New					
Adiantum daphanum (7996)					Review Remove
CaboChaena dala (8341)					Review Remove
Lathrogis macrocarpa (3018)					Review Remove

Figure 10.16 The 'NVIS level V' tab of the 'Replicate' page

Table 10.4 provides details on each of the columns present in this table.

Table 10.4 Descriptions of the fields present in the 'NVIS level V' tab of the 'Replicate' page.

Field name	Description
Strata type	Identifies the stratum being described.
Lower height	The lowest height of the stratum (in metres).
Mode height	The mode height of the stratum (in metres).
Upper height	The upper height of the stratum (in metres).
% cover	Percent cover for the defined stratum.

The dominant species identified for each stratum are listed within a sub-table, with each species name a link enabling you to view further details in a pop-up (see Figure 10.17). If you have minimised the species from your view you may display them again by clicking the button in the 'Strata' type column next to your elected stratum (see Figure 10.17).

Close

Strata dominant

Strata type: Lower stratum 1 (upper)
Species synonym (code): Entolasia stricta (4947)

Growth form N/A
 Infraspecies N/A
 Lower height (m) N/A Upper height (m) N/A
 Cover score N/A Abundance score N/A
 % cover actual N/A Abundance actual N/A

Figure 10.17 'Strata dominant' pop-up

The top of the page contains orange text identifying the Strata and species being reviewed. The code next to the species synonym is the Census of Australian Plants code (CAPS). This is an alphanumeric code unique to that particular species. The remainder of the fields present in this pop-up are described in Table 10.5. If no data exists for a particular field then it will be blank, or 'N/A' will appear alongside it. Use the scroll bars to navigate to see all the fields.

Table 10.5 Descriptions of the fields present in the ‘Strata dominant’ pop-up

Field	Description
Growth form	The identified growth form for the species
Infraspecies	Lists the relevant infraspecies for the species being reviewed (if applicable)
Cover score	Species cover score: the scoring methodology used here will follow the methodology chosen in the ‘Scoring systems’ tab of the ‘Flora surveys’ page
Abundance score	Species abundance score: the scoring methodology used here will follow the methodology chosen in the ‘Scoring systems’ tab of the ‘Flora surveys’ page.
% cover actual	Percentage cover for the nominated species (as opposed to a scored measure of cover)
Abundance actual	True abundance measure for the nominated species (as opposed to a scored measure of abundance)
Lower height	Minimum crown height (m) of the nominated species within the chosen stratum
Upper height	Maximum crown height (m) of the nominated species within the chosen stratum
Field no.	If a specimen was taken this field will display the specimen number allocated in the field
RBG no	If a specimen was provided to the Royal Botanic Gardens this field will display the specimen number allocated by the RBG
Voucher location	If the specimen was lodged at an herbarium this field will display the location of the specimen

To review the ‘Strata dominant’ click ‘Review’ (see Figure 10.18), to display the ‘Review strata dominant’ pop-up (see Figure 10.18).

Close

Review strata dominant

Note: fields marked with * are required Save

Strata type: Mid stratum 1 (upper)
 Growth form:

Select Species
 To select a species use the below search then select the species from the dropdown menu.

Genus:
 Species:

 Species*: Syncarpia glomulifera (6688)
 Infraspecies:

Lower height (m): May contain only numbers up to two (2) decimals.
 Upper height (m): May contain only numbers up to two (2) decimals.

Cover score:
 Abundance score:

% cover actual: May contain only numbers up to one(1) decimal.
 Abundance actual:

Field no.:
 RBG no.:

Voucher location:

History

Figure 10.18 'Review strata dominant' pop-up

When you have finished reviewing the information for the individual species click 'Close' to return to the 'NVIS level V' tab.

10.5.3 'Condition' tab

The 'Condition' tab details the vegetation condition for the replicate area. The condition factors measured within the site are intended to allow a standardised set of factors that aid the development of benchmark values for Plant Community Types. There are two sections to this tab (see Figure 10.19).

Replicate
 Survey name: **SALTWATER**
 Site number: **SALT1** (1)
 Census key: CPJGI0118612

PCT Information
 PCT ID: PCT Name: Class:

General **NVIS level v** **Condition** Land use Site history Disturbance Species Ground cover Graphics

Condition (within 0.04ha)

	Upper stratum	Mid stratum	Ground stratum			% cover
			Grasses	Shrubs	Other	
Native richness	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Litter
Native cover	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Bare ground
Exotic cover	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Cryptogams

Condition (within 0.1ha quadrat)

No. of trees with hollows:
 Woody debris:
 (lineal metres > 10cm diameter)

Woody regeneration

No. of upper stratum sp.:
 Count:

Woody stem-sizes
 Note: Size(s) are only required when count is entered for size >= 30cm DBH (measure all). For smaller enter the count or sizes (or both).

Count	Size(s)
<input type="text"/>	5 <= Size < 10
<input type="text"/>	10 <= Size < 20
<input type="text"/>	20 <= Size < 30
<input type="text"/>	Size >= 30cm DBH (measure all)

Tree health

No evidence Branchlets dead Small branches dead Main branches dead Trees dead

Figure 10.19 ‘Condition’ tab of the ‘Replicate’ page

‘Condition (within 0.04ha)’

This section provides vegetation information about the primary strata (see Figure 18). Please note that the strata listed in the table are there by default and may not necessarily reflect the strata flagged in the ‘NVIS level V’ tab.

Elements within the ground stratum are distinguished as grasses, shrubs (perennial woody plants less than 1m tall) and all other components. Should an element not be recorded, or is not entered, the cell will be blank, or ‘N/A’ displayed.

Cover percentages are entered as percent ground cover (foliage + crown elements) for the vascular plants, and percent total ground cover for the litter, bare ground and cryptogam elements.

‘Condition (within 0.1ha quadrat)’

This section is split into sub-components:

- Hollows and woody debris
 - The recording of hollows and large woody debris aids in determining the habitat value of an area to local fauna. Both measures are determined on a 0.1ha site (usually 20 x 50m).
 - Hollows are counted on a *per tree* basis – one or more hollows (of any size suiting nesting or shelter) on a tree is counted as a single unit.
 - Large woody debris is a count of the metres (in 0.5m increments) of the timber >10cm diameter on or near the ground that would act as habitat for ground-dwelling fauna.
- Woody regeneration

- This pair of measures is often considered on an area larger than 0.1 ha but has been captured here for simplicity. The number of upper stratum species (in a woody community) noted in the ‘vegetation zone’ (an area of the same type, condition and landscape position) that the site falls into are recorded in the first field, with the number of those species noted to be recruiting (stems having a diameter at breast height of less than or equal to five centimetres).
- Woody stem sizes
 - These fields record the woody stems in each of the size bands noted (5-10, 10-20, 20-30 and ≥30cm). For the largest class (30 centimetres or larger), each individual stem is recorded as a diameter value, while for the smaller classes, either each individual stem, or a count of the stems in that class, can be recorded.
- Tree health
 - The health state of trees at a site gives information about the effects of disturbance and pathogens as well as history that may not be recorded or known. This assessment will be an estimate of the average tree health across the site.

Further details on the data presented on the ‘Condition’ tab may be found in Table 10.6.

Table 10.6 Descriptions of the fields present in the ‘Conditions’ tab of the ‘Replicate’ page.

Section of the Condition tab	Component of the Condition tab	Field	Description
Condition (within 0.4ha)	–	Native richness	Number of native species recorded
		Native cover	Percentage cover of constituent native species
		Exotic cover	Percentage cover of constituent exotic species
		% cover	This column is split into three sections for the percent cover: 1. Litter 2. Bare ground 3. Cryptogams
Condition (within 0.1ha quadrat)	–	No. of trees with hollows	Count of trees with hollows
		Woody debris (lineal metres >10cm diameter and >50cm long)	Measure of the metres (given in 0.5m intervals) of timber available for use as potential habitat for ground-dwelling organisms
	Woody regeneration	No. of upper stratum sp.	Number of upper stratum species regenerating
		Count	Count of each species.
	Woody stem sizes	5 ≤ Size <10	Displays the count and, if recorded, diameter at breast height (DBH) of each stem within 5 – 10cm DBH
		10 ≤ Size <20	Displays the count and, if recorded, diameter at breast height (DBH) of each stem within 10 – 20cm DBH

Section of the Condition tab	Component of the Condition tab	Field	Description
		20 ≤ Size <30	Displays the count and, if recorded, diameter at breast height (DBH) of each stem within 20 – 30cm DBH
		Size ≥ 30	Displays the count and, if recorded, diameter at breast height (DBH) of each stem greater than 30cm DBH
	Tree health		Provides a general indicator of the health of the tree using standardised measures (e.g. small branches dead, branchlets dead)

10.5.4 'Land use' tab

General
NVIS level v
Condition
Land use
Site history
Disturbance
Species
Ground cover
Graphics

Land use (Dominant):

Land cover (Upper stratum):

Land cover (Lower stratum):

Age structure:

Figure 10.20 'Land use' tab

The 'Land use' tab presents dominant land use and land cover information for the replicate. If no data exists for a particular field, the field is blank, or 'N/A'.

10.5.5 'Site history' tab

General
NVIS level v
Condition
Land use
Site history
Disturbance
Species
Ground cover
Graphics

Results 1-1 of 1

Date recorded	History type	Frequency	Age	Comments
26/10/2004	Grazing management	no record	recent (<3yrs)	

Figure 10.21 'Site history' tab

If data exists for this tab a table will appear with five columns:

- Date recorded: the date that the management strategy was recorded. This is the date that the replicate was conducted.
- History type: lists the management strategy.
- Frequency: provides details about the frequency of the management e.g. high, low.
- Age: the age of the management type.
- Comments: any extra comments about the history entered by the recorder.
- Each individual management type appears in a separate row.

If no data exists, a 'No site history available' message will appear.

10.5.6 'Disturbance' tab

General	NVIS level v	Condition	Land use	Site history	Disturbance	Species	Ground cover	Graphics
Results 1.1 of 1								
Date recorded	Disturbance type	Severity	Time since last event or age		Observational evidence			
26/10/2004 00:00:00	Weeds	Moderate	recent (<3yrs)					

Figure 10.22 'Disturbance' tab

If data exists for this tab a table will appear with five columns:

- Date recorded: the date that the disturbance was recorded. This is the date that the replicate was conducted.
- Disturbance type: lists the type of disturbance.
- Severity: provides details about the severity of the disturbance e.g. high, low.
- Time since last event or age: time since the last disturbance of that particular type.
- Observational evidence: any additional comments about the disturbance entered by the recorder.
- Each individual disturbance type appears in a separate row.

If no data exists, a 'No disturbance available' message will appear.

10.5.7 'Species' tab

General	NVIS level v	Condition	Land use	Site history	Disturbance	Species	Ground cover	Graphics			
<p>Survey score methods Cover score method: Cover 1 to 7 Abundance score method: (unspecified)</p> <p>Species options <input checked="" type="radio"/> Floristics <input type="radio"/> Non-site spp.</p> <p>⊕ Expand all ⊖ Collapse all</p> <p>Results 1.20 of 47</p>											
								1 2 3			
Sub plot	Sighting Key	Status	Species name	Assigned name	Cover score	Abund score	Stratum	Growth form	Field no.		
+	1 SPJGI3172781	V	11102 Lastreopsis microsora subsp. microsora	11102 Lastreopsis microsora subsp. microsora	1		-	▼			Review Remove
+	1 SPJGI3172782	V	1221 Livistona australis	1221 Livistona australis	2		-	▼			Review Remove
+	1 SPJGI3172783	V	1740 Pandorea pandorana	1740 Pandorea pandorana	1		-	▼			Review Remove

Figure 10.23 'Species' tab

Along with the 'NVIS level V' tab, the 'Species' tab contains the bulk of the replicate data and is most likely the reason you are examining the replicate.

At the top right are two radio buttons:

- Floristics: refers to all species within the specified replicate area, including non-site spp. records.
- Non-site spp.: records species observed ≤ 50m outside the plot, occurring within the same sampling unit. These species may be important sightings, or indicative of a particular community.

Once you have selected the type of species data you wish to view you should look at the table. The sub-table is an extension of the primary table, and when viewing should just be treated as an extension of the row (see Figures 10.24 and 25).

General NVIS level v Condition Land use Site history Disturbance **Species** Ground cover Graphics

Floristics Non-site spp.

Displaying 1 to 10 of 32 search results Result pages 1 2 3 4

Sub plot	Stratum	Growth form	Species name	Assigned name	Cover score	Abund score	Field no.
1	Unspecified		Pultenaea elliptica	Pultenaea tuberculata	2		

Height to crown		RBG no.	% Cover actual	Abund actual	Voucher
Min	Max				

Replicate

Survey name: **SALTWATER** Change
 Site number: **SALT1** (1)
 Census key: CPJGI0118612

PCT Information

PCT ID: PCT Name: Class: Unclassified

General NVIS level v Condition Land use Site history Disturbance **Species** Ground cover Graphics

Survey score methods
 Cover score method: Cover 1 to 7
 Abundance score method: (unspecified)

Species options
 Floristics Non-site spp.

Expand all Collapse all

Results 1-20 of 47 1 2 3

Sub plot	Sighting Key	Status	Species name	Assigned name	Cover score	Abund score	Stratum	Growth form	Field no.	Review	Remove
1	SPJGI3172781	V	11102 Lastreopsis microsora subsp. microsora	11102 Lastreopsis microsora subsp. microsora	1		-			Review	Remove
1	SPJGI3172782	V	1221 Livistona australis	1221 Livistona australis	2		-			Review	Remove
1	SPJGI3172783	V	1740 Pandorea	1740 Pandorea	1		-			Review	Remove

Figure 10.24 'Species' tab for public (top) and secure (bottom) users

Sub plot	Stratum	Growth form	Species name	Assigned name	Cover score	Abund score	Field no.	Height to crown		RBG no.	% Cover actual	Abund actual	Voucher
								Min	Max				
1	Unspecified		Pultenaea elliptica	Pultenaea tuberculata	2								

Figure 10.25 A two-tiered table presented as one continuous row

Information about the data captured by each of the fields is the same as provided in Table 10.5 in the 'NVIS level V' tab and will not be repeated here.

There are two fields unique to the 'Species' tab:

- 'Sub-plot': This will generally be populated with a '1'. However, if a nested, or contiguous plot methodology was employed then there will be different subplot numbers assigned, as numerous subplots were used in sampling.
- 'Stratum': defines the stratum the species was identified in. Please note that species entered as 'Non-site spp.' will be marked as 'AdU – additional unscored species'.

10.5.8 'Ground cover' tab

This tab provides information on individual components of ground cover and the respective percentage of ground covered by each individual component. Please be aware that due to layering of each type of cover the Total(s) field may sum to more than 100%.

► Replicate(1)

Survey name: [ELA MDBA BALONNE_FF](#)
 Site number: [BAL_149](#)

General NVIS level v Condition Land use Site history Disturbance Species **Ground cover** Graphics

Ground cover

Total	
Litter %	20
Bare ground %	40
Cryptogam %	N/A
Woody debris %	N/A
Rock %	N/A
Exotic (Annual) %	N/A
Exotic (Perennial) %	N/A
Shrub (Crown height < 1m) %	N/A
Grass (Hummock) %	N/A
Grass (Other) %	N/A
Forb %	N/A
Sedge/Rush %	N/A
Fern %	N/A
Other %	N/A
Total(s)	60

Other

Total	
Dung (Stock) %	N/A
Dung (Exotic pests) %	N/A
Dung (Native) %	N/A
Woody seedlings %	N/A

General NVIS level v Condition Land use Site history Disturbance Species **Ground cover** Graphics

Ground cover

Total	
Litter %	
Bare ground %	
Cryptogam %	
Woody debris %	
Rock %	
Exotic (Annual) %	
Exotic (Perennial) %	
Shrub (Crown height < 1m) %	
Grass (Hummock) %	
Grass (Other) %	
Forb %	
Sedge/Rush %	
Fern %	
Other %	
Total(s)	0

Other

Total	
Dung (Stock) %	
Dung (Exotic pests) %	
Dung (Native) %	
Woody seedlings %	

[Update](#)

Figure 10.26 'Ground cover' tab for public (top) and secure (bottom) users

10.5.9 'Graphics' tab

This tab displays thumbnails of any graphics associated with the replicate. These commonly include photographs looking into the replicate, site markers, or of any threatened, or otherwise significant species identified within the replicate.

Data will be presented in a table detailing a description (if provided), the name of the photographer, and a thumbnail of the saved image in the Photo column.

Clicking on the thumbnail in the photo column will open a new pop-up of an enlarged photo with further details listed (contact, description, notes and copyright renewal).

If there are no graphics associated with that replicate, then a 'No records available' message will appear.

General NVIS level v Condition Land use Site history Disturbance Species **Ground cover** **Graphics**

Results 1-2 of 2 [New](#) [Search](#)



Description	Photographer	Photo
David A Keith, Les Mitchell, Suzette Rodoreda		 Review Remove
David A Keith, Les Mitchell, Suzette Rodoreda		 Review Remove

Figure 10.27 'Graphics' tab for public (top) and secure (bottom) users

11. Entering flora survey data

View and edit functions in this part of the 'Flora surveys' module are available to users as outlined in Table 11.1.

Table 11.1 Access to the Data maintenance module by User Role

Func.	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	N	N	Y	Y	Y	Y	Y	Y
Edit	N	N	N	Y	Y	Y	Y	Y

Regardless of your user role, in order to contribute survey data you will need to have notified the [BioNet team](#) of your intentions to add survey data so that an appropriate dataset can be created for the survey and edit access is assigned to that dataset. This ensures that your survey is write-accessible only to appropriate users.

Are you doubling your work effort?

If you are contributing data to the 'Flora surveys' module, please **do not** import the same data using the 'Species sightings' module.

The BioNet Atlas is a composite dataset consisting of records from all three modules ('Fauna surveys', 'Flora surveys' and 'Species sightings'). Attempting to add data by importing a spreadsheet and entering records as part of a systematic survey will only unnecessarily increase your work effort as whichever records you enter last will be flagged as duplicates of those entered earlier.

Before you enter any records please decide which module of the BioNet Atlas is the most appropriate to use for data entry. If you need assistance in determining the most appropriate module to use for your data entry, please contact the [BioNet Team](#). Flora survey records can either be manually entered, or a combination of manual entry with sighting records submitted via a bulk upload process. Refer to Figures 11.1 and 11.2 for a simplified overview of the process and options to contribute records.

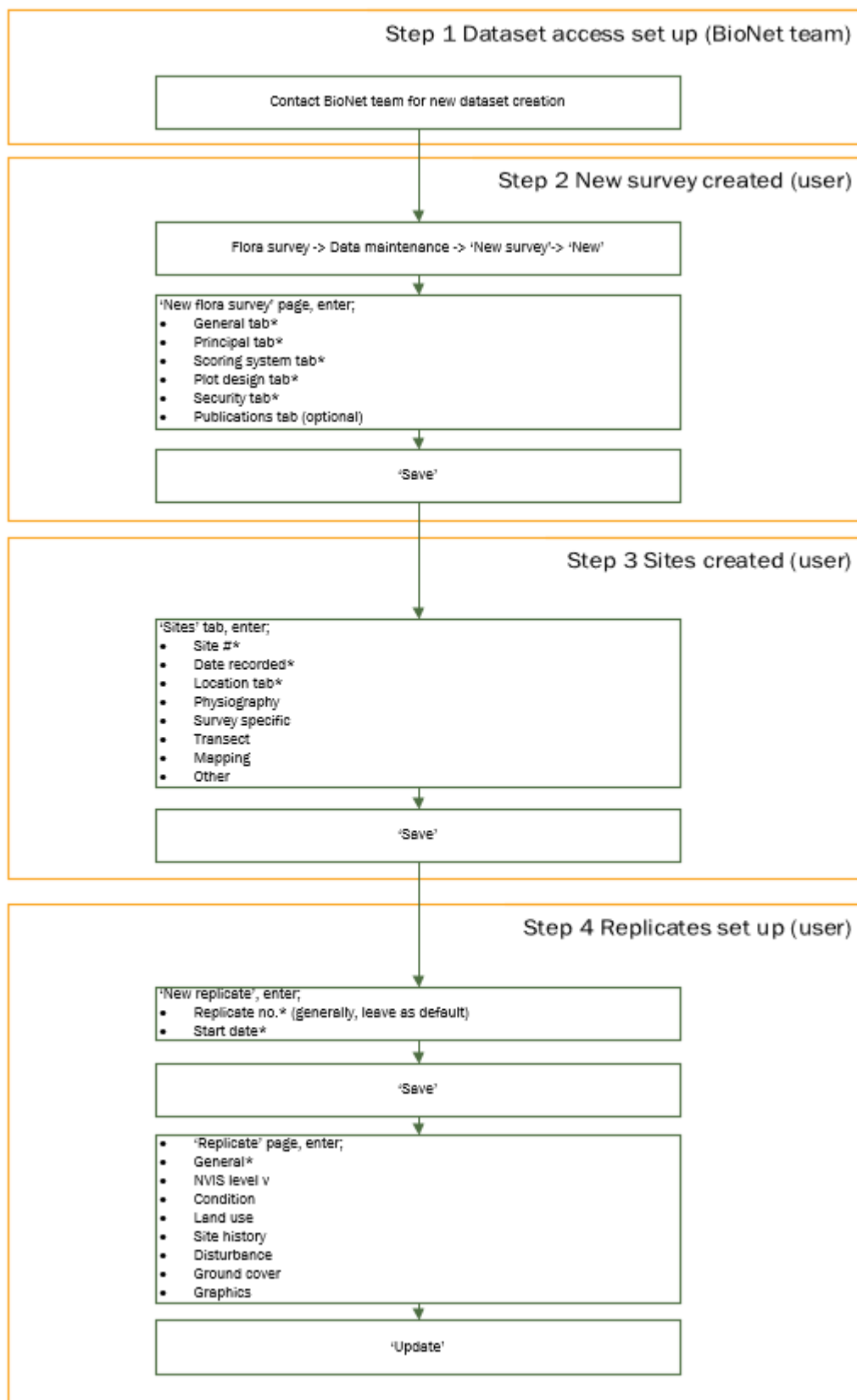


Figure 11.1 Contributing flora survey records workflow – Steps 1 to 4

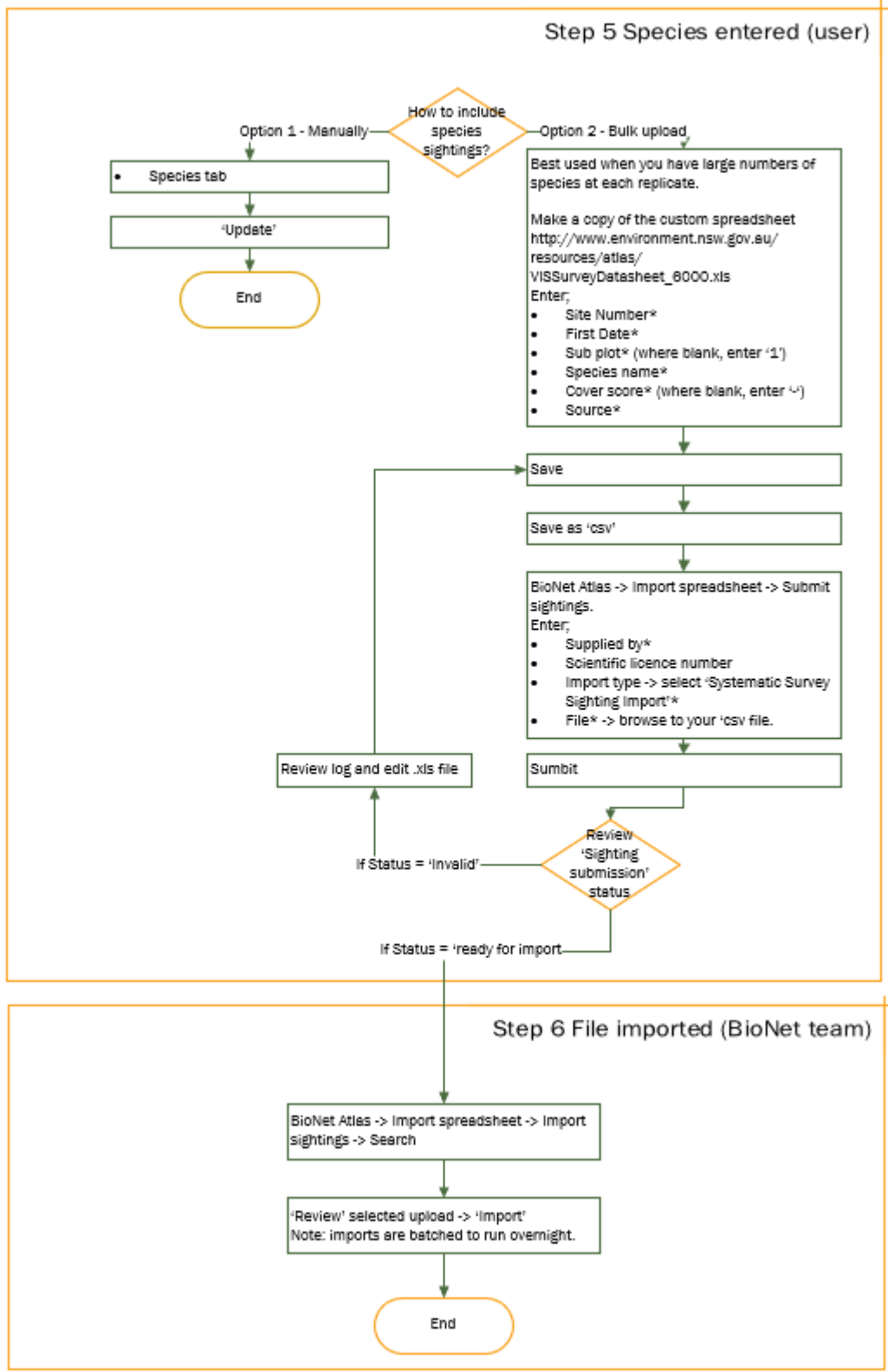


Figure 11.2 Contributing flora survey records workflow – Steps 5 to 6

11.1 Survey data

To create a new survey:

1. Navigate to the 'Data maintenance' page of the 'Flora surveys' module.

2. Enter the Data maintenance section of the 'Flora surveys' module.
3. At the top right of the 'Data maintenance' page is a button labelled 'New'. Click this to be directed to the 'New Flora survey' page.

If the 'New' button is not visible or is inactive, contact the [BioNet team](#).

11.1.1 Populating the survey data fields

General tab

New flora survey

Note: fields marked with * are required

General	Principal	Scoring systems	Plot design	Security	Publications	Sites	Replace Species
Survey name*: <input type="text"/> Description: <input type="text"/>							

History	
Date	<input type="text"/>
Created	<input type="text"/>
Created By	<input type="text"/>
Date Updated	<input type="text"/>
Updated By	<input type="text"/>

Figure 11.3 'General' tab of the 'Flora surveys' page

As shown in Figure 11.3, the 'General tab' requires you to enter a survey name (otherwise known as 'survey code'). This is a free text field restricted to a maximum of 10 alphanumeric characters, dash (-) and underscore (_).

Create a meaningful survey code as once you have saved a code, you cannot amend it.

The system will automatically screen the database to ensure duplicate survey names are not created. If you attempt to create a duplicate name, a pop-up will appear notifying you that the survey code is in use (see Figure 11.4).

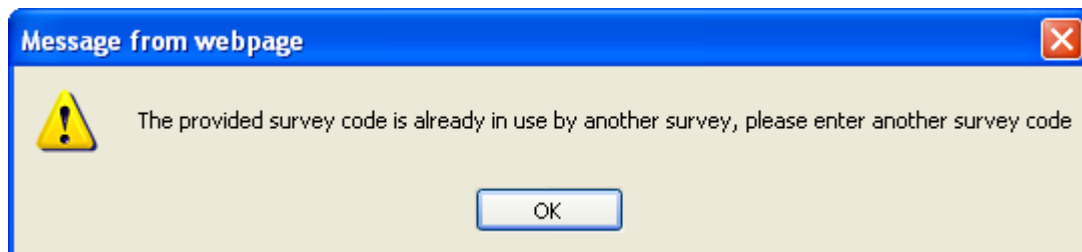


Figure 11.4 Survey code warning

There is also a free text field for you to provide a description of the survey. This is not a required field but may be useful to other users of the 'Flora surveys' module.

If you attempt to save incorrectly entered data at any stage (survey/site/replicate) error messages will be displayed in the header section. This section will also inform you of any required fields that you may have omitted.

'Principal' tab

Background to Observer/Principal/Recorder data in the BioNet Atlas database

The BioNet Atlas database contains one table that stores the contact details for individuals linked to sightings, or surveys within the constituent modules (e.g. 'Species sightings', 'Fauna survey' and 'Flora surveys').

These individuals are referred to differently depending on the module being viewed.

‘Species sightings’ module – Observers

‘Fauna surveys’ module – Principal and Observer

‘Flora surveys’ module – Principal and Recorder

The differing nomenclature represents the different role each type plays in the respective module.

Observer: This individual has observed a particular species or been responsible for conducting a census within a survey.

Principal: This individual is the primary person responsible for a survey.

Recorder: This individual has recorded the details for a vegetation survey replicate.

As all three individual types are linked searching within a Search for Principal/Recorder/Observer pop-up will return results for individuals within any of the three categories.

Note OEH staff: For this reason, care must be taken when editing data as the person’s details that you are editing the data of may be used elsewhere in the BioNet Atlas database.

New flora survey

Note: fields marked with * are required



Figure 11.5 ‘Principal’ tab of the ‘Flora surveys’ page

This tab is used to identify the principal surveyor/organisation for the survey (see Figure 11.5). You may add as many as you require. At least one must be entered.

Holders of a Sensitive Species data licence, with survey provider agreement

The *Privacy and Personal Information Protection Act 1998* restricts external users from viewing the full Observer table, which stores the personal information of principals and recorders (of the ‘Flora surveys’ module) and observers of the ‘Species sightings’ module.

As a licensed user you will be granted access to a restricted list of observers associated with your licence.

If you cannot find the person(s) you wish to add in the restricted list, you will need to contact the [BioNet team](#) with the full name and contact details of the individual you wish to add. Your list of observers will then be updated accordingly.

OEH Staff

When adding principals, it is best to first search the database to see if they are already in the system. As this component is shared across all the modules within the BioNet

Atlas it is possible that your principal already exists in the system (due to entry as a principal, or recorder in another survey, or as an observer in the 'Species sightings' module).

Searching for a principal

1. Click 'Search' to bring up the search for principal pop-up.
2. Type in all (or part) of the surname and/or given name. The 'Flora surveys' database will search on all values that contain your search phrase. In Figure 11.6, searching on Surname 'Smith' and Given name(s) 'A' will return all name entries that **contain** both values, rather than only those surnames that **begin** with the search phrase.

The screenshot shows a search interface titled "Search for observer" with a "Close" button in the top right. Below the title is a search form with two input fields: "Surname" containing "green" and "Given name(s)" containing "ter". A "Search" button is to the right of the second field. Below the form, it says "Results 1-2 of 2" and a "Show all results" link. A table displays the search results:

Surname	Given name(s)	Address	Town	Phone	Email		
Green	Teresa	1 Eucalyptus Drive	Lilly Pilly	99999999	teresa.green@wildflownursery.com.au	Select	i
Green	Walter	2 Eucalyptus Drive	Lilly Pilly	88888888	walter.green@wildflownursery.com.au	Select	i

Figure 11.6 Search for principal results

As Figure 11.6 shows, some people are entered by surname and first initial(s) only, so if you cannot find someone by their full name it is worth checking they are not in the system in an abbreviated form. Their identity may be confirmed by reviewing their details.

Licensed users note

If the contact details, or name has altered, then please contact the [BioNet team](#) to have the details updated.

If you cannot find the principal in your observer list then please contact the [BioNet team](#) to have their details added.

Please proceed to the information on the 'Scoring' tab as the remainder of the details are for OEH staff only.

Often you may find that the same principal has been entered multiple times. In some cases, this is the result of different NPWS offices adding details for someone who already existed in the database, prior to the BioNet Atlas being centrally available and the respective modules previously being standalone databases. In other cases, it's likely that insufficient or different

contact details were attributed to the original entry, so multiple entries were created for the same principal.

1. If there are multiple entries for the principal, click 'i' to open a pop-up displaying further contact details (see Figure 11.7).
2. If the details match those of your desired principal, click outside of the information box to close the box and click on the 'Select' button to choose this principal.
3. The 'Search for principal' pop-up window will disappear, and the details of the principal will automatically be added to the 'Principal' tab folder.

If there are multiple entries for the same principal, with the same contact details, select the entry with the most information. It is also a good idea to check the date the principal details were last updated. Do this by selecting 'Review'.

4. In the Principal edit window, note the date in the 'Date Updated' field (see Figure 11.7), to see how current the details are. This does not necessarily mean that all details were reviewed and updated at this date, but that at least one field was edited on this date.

Date Created	17/01/1996 14:03:16
Created By	Atlas Conversion
Date Updated	16/03/2011 16:24:05
Updated By	Deyarne Plowman

Figure 11.7 'Date updated' field in the 'Principal edit' pop-up

Update details for an existing principal

If you notice an existing principal has missing or outdated details, you can update their details.

Note that if you are unsure if the principal entry is the same person to whom you are referring (e.g. B Smith with no other useful contact info), please do **not** edit as this principal will be attached to other entries (either within the 'Flora surveys' module, 'Fauna surveys' module, or the 'Species sightings' module) and it would be wrong to apply potentially erroneous contact details. If, however you are certain of the principal you wish to edit, proceed with the changes.

1. Select 'Review'.
2. Edit the fields as necessary.
3. Once finished, click 'Save' to save your changes.
4. Note that a pop-up window will appear advising you that changes you make to the principal details are linked to all other sightings that this principal has been assigned.
5. Select 'OK'. If successful, you will see a pop-up.
6. Click 'Close' at the top right to return to your previous page to continue using the 'Flora surveys' module.

Create a new principal

Licensed users

If you cannot locate the principal within the database, then you will need to contact the [BioNet team](#) and provide their details.

The information below on creating new principals is for OEH users only.

1. If you cannot locate the principal within the database, then you will need to create a new entry.
2. Select 'New'. A 'New principal' box will appear (see Figure 11.8).

New principal Close

Note: fields marked with * are required Save

Principal identification

Principal key:

Surname*: Given names:

Occupation:

Notes:

Contact details

Email:

Address:

Town:

State: Postcode:

Contact number(s)*

No contact numbers found...

Phone type	Phone number
Main <input type="text"/>	<input type="text"/>

[Add](#)

History

Date created:

Created by:

Date updated:

Updated by:

Figure 11.8 'New principal' pop-up

Note that while the 'Surname' is the only mandatory field, ensure you enter as many details as possible. This avoids duplicate principal entries being created in future and also assists OEH staff to contact principals in future, should it be required. The notes field should only be used to add details that do not fit into the other available fields (such as experience with species identification, qualifications etc).

3. Add details to all fields as necessary.
4. To add contact numbers, select the most appropriate 'Phone type' from the dropdown menu.
5. After entering the phone number, click 'Add' to add additional contact numbers.
6. Once all principal contact details have been entered, click 'Add'.

Licensed and OEH users – How to add multiple principals

To add more than one principal, either click on 'Search' to search for existing entries for the principal, or select 'New' to create a new principal entry.

Repeat as appropriate until all principals have been added.

- After the principal(s) have been entered, you need to select the relevant scoring system for the survey.

‘Scoring systems’ tab

New flora survey

Note: fields marked with * are required

The screenshot shows the 'Scoring systems' tab selected in the top navigation bar. Below the tabs, there are two sections for defining scoring systems. The first section, 'Species score', includes a dropdown for 'Score method*' and a text area for 'Score description'. The second section, 'Additional abundance score', also includes a dropdown for 'Score method' and a text area for 'Score description'. The 'Score description' fields are currently empty.

Figure 11.9 ‘Scoring systems’ tab within the ‘Flora surveys’ page.

Within the ‘Scoring systems’ tab you have the option of selecting your scoring systems for species cover score and abundance score from the dropdown lists provided (see Figure 11.9). When you select an option from either dropdown, the ‘Score description’ box(es) automatically populate with information about your selected method(s).

‘Plot design’ tab

New flora survey

Note: fields marked with * are required

The screenshot shows the 'Plot design' tab selected in the top navigation bar. The main content area contains a section titled 'Type of survey plots used (Tick all that apply)*' with four checkboxes: 'Unspecified', 'Known area', 'Nested', and 'Dimensionless'. Below this is a large text area for 'Method notes'. The checkboxes are currently unchecked.

Figure 11.10 ‘Plot design’ tab within the ‘Flora surveys’ page.

The details you enter here should align with information you intend to enter at the plot description of the ‘General’ tab of the ‘Replicate’ page.

Plot design contains four check boxes (see Figure 11.10):

- ‘Unspecified’: only use if you are entering historical data for which you cannot identify an appropriate method, otherwise this check box should not be used.
- ‘Known area’: select this check box if you used a standardised measured area for your survey (e.g. 20m x 20m quadrats, 50m transect).
- ‘Nested’: select this check box if you used a nested technique e.g. all your sites share the same starting coordinates but have increasingly expanded dimensions.
- ‘Dimensionless’: select this check box if your assessment involved a random walk, or an undefined/unbounded assessment (e.g. locality assessment, species list).

If you tick ‘unspecified’ it will clear all other options, likewise selecting another option will clear the unspecified check box. You may select more than one of known area, nested or dimensionless if necessary.

Any extra notes you have about the plot design may be added to the method notes field. If you have chosen the unspecified check box or more than one method please provide extra details here.

‘Security’ tab

New flora survey

Note: fields marked with * are required

General	Principal	Scoring systems	Plot design	Security	Publications	Sites	Replace Species
Dataset*: <input type="text"/>							
Custodian:							
Contact name:							
Contact address:							
Contact phone:							
Contact email:							

Figure 11.11 ‘Security’ tab within the ‘Flora surveys’ page.

This tab is mandatory. Surveys captured within the Flora surveys database need to be attributed to a defined dataset. When the data were migrated from YETI 3.2. datasets were named from the Survey code with ‘Vegetation Survey’ appended to the code (e.g. survey ‘ALLWOLL’ would be added to a dataset with name ‘ALLWOLL Vegetation Survey’). The dataset chosen determines the read/edit rights of the survey for individual users within each of the user types described in Section 3.1. Ideally multiple surveys with the same custodian and the same data access requirements should be grouped into a single dataset. However, to date this grouping has only been done for a few surveys with most survey simply being stored in a dataset with the same name as the survey.

Contact the [BioNet team](#) prior to creating a new survey to ensure that an appropriate dataset is created for your survey.

Sensitive Species Licensed users

You need to ensure you have completed ‘Attachment A: Request for creation of dataset’ to enable data entry of your BioNet Sensitive Species Data Licence Agreement.

When you have chosen the designated dataset from the dropdown list provided, the details below the dropdown will populate. This provides information about the:

- ‘Custodian’: the organisation or individual responsible for ensuring the accuracy, currency, storage, security and distribution of a dataset. The custodian is not necessarily the copyright holder, or the author of the data.
- ‘Contact name’: the name of the designated contact for the dataset. Any queries regarding surveys included within the dataset should be directed to the contact via one of the contact details provided.
- ‘Contact address’.
- ‘Contact phone’.
- ‘Contact email’.

Before you proceed to the next tab you should review these details to ensure they are correct. If you have any queries, please contact the [BioNet team](#).

‘Publications’ tab

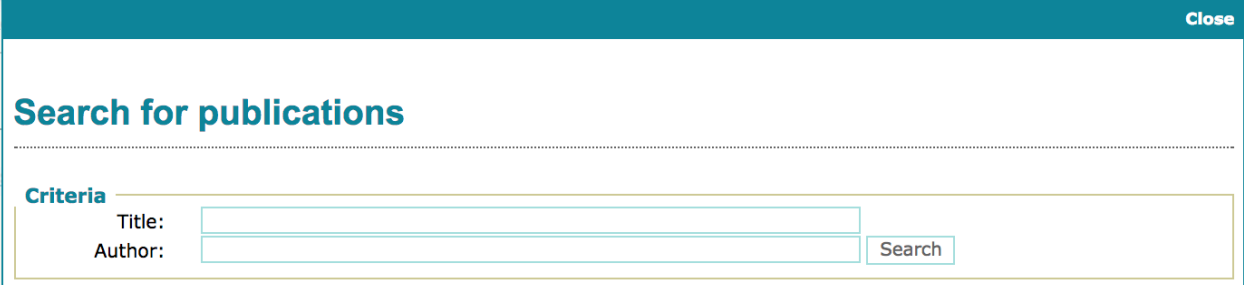
This tab is used to link a survey to a particular report. Publications may be added by one of two methods:

- Searching for an existing publication
- Creating a new publication.

Search on an existing publication

If you have created a publication entry in the past or wish to search to see if anyone else has created an entry for a specific reference, you can search on existing publications.

1. Click the ‘Search’ button. A ‘Search for publications’ pop-up appears (see Figure 11.12).



The screenshot shows a pop-up window titled "Search for publications". At the top right of the window is a "Close" button. Below the title, there is a section labeled "Criteria" which contains two input fields: "Title:" and "Author:". To the right of the "Author:" field is a "Search" button.

Figure 11.12 ‘Search for publications’ pop-up

2. Enter part of the publication title or the author’s name. The results are listed by Title, Author(s) and Year.
3. If your publication is listed, click ‘Select’ to add it to your publications list. You are then returned to the ‘Publications tab’ where your reference should now be listed, along with the options ‘Review’ and ‘Remove’.
4. If no results are returned you will receive a ‘No bibliographies found...’ message. Click ‘Close’ at the top right of the pop-up. You will need to create a new publication.

Creating a new publication

To create new details for a publication:

1. Click on the ‘New’ button. A new publication pop-up will appear (see Figure 11.13).

Close

New publication

Note: fields marked with * are required Save

Publication identification

Publication key:

Title*:

Author*:

Publisher name:

Year of publication*:

Type of publication*:

City of publication:

If from a journal or book

Name of book:

Name(s) of editor:

Volume of publication:

How reference is used

Details of publication:

Pages: Used in manuscript:

Keywords for article:

Location:

Comments

Figure 11.13 ‘New publication’ pop-up

2. At a minimum, you need to enter:
- ‘Title’
 - ‘Author’(s)
 - ‘Type of publication’
 - ‘Year of publication’.

Table 11.2 provides details on the fields and their limits.

Table 11.2 Description of the fields available in the ‘New Publication’ pop-up of the ‘Flora surveys’ page

Field	Description
Publication key	Automatically populated field. Will fill once publication is saved. This is for internal reference purposes.
Title*	Title of work which references the survey data (e.g. EIA (environmental impact assessment), Plan of Management, research article). This is a free text field.
Author*	Name(s) of the author(s) in the format: Surname, First name/initial. For multiple authors please separate.
Publisher name	Name of the publisher. This is a free text field.
Year of publication*	Restricted to four digits. Must be >1600.
Type of publication*	Select from the provided dropdown.
City of publication	Free text field.

Field	Description
Name of book	If the referenced work is from a journal or a book, provide the title here. This is a free text field.
Name(s) of editor	If the referenced work is from a journal or a book, provide the editor(s) here. Please follow the format used for author in this field.
Volume of publication	Free text field restricted to 30 characters.
Details of publication	Free text field.
Pages	Relevant page numbers for the referenced work, using a hyphen to denote 'to' e.g. 6 – 10. This is a free text field restricted to 40 characters.
Used in manuscript	Free text field restricted to 65 characters.
Keywords for article	Free text field.
Location	Free text field.
Comment	If you have any additional comments about the publication, enter them here. This is a free text field.

- When you have completed the publication details, click 'Save'. The pop-up will close, and your new publication will appear in the publications tab, with 'Review' and 'Remove' options.

'Sites' tab

This screen appears much like the 'Sites' tab on the 'Data maintenance' page, except at the top right of screen there is a greyed out 'New' button. You need to save your survey before you can assign any sites to it. For further details on how to add site data please refer to Section 11.2 Site data.

'Replace species' tab

Flora survey

Survey name: ROYAL

Note: fields marked with * are required

Figure 11.14 'Replace species' tab

This tab provides the ability to update all records of a species across an entire survey. This is generally useful for replacing unknown codes. For example, species originally entered as 'Unknown X', can be later updated once the identity is determined.

- To replace species, in the 'From species' field, select 'Search'. In the 'Select a Species from' pop-up, enter the species name, select 'search' and then 'select'.

- In the 'To species' field, select 'Search'. In the 'Select a Species from' pop-up, enter the species name, select 'search' and then 'select'. The 'From species' and 'To species' values selected then display in the 'Replace species' tab (see Figure 11.15).

Flora survey

Survey name: ROYAL

Note: fields marked with * are required

The screenshot shows the 'Replace Species' tab in the BioNet Atlas interface. The tab is active and displays the following information:

- Survey name:** ROYAL
- From Species:** 3710 Acacia baileyana (with a Search button)
- To Species:** 14646 Acacia baileyana x decurrens (with a Search button)
- Confirm Replace** button

The interface includes a navigation bar with tabs: General, Principal, Scoring systems, Plot design, Security, Publications, Sites, and Replace Species.

Figure 11.15 The 'Replace species' tab with selected species

- Select 'Confirm replace'.
- A warning message will display (see Figure 11.16). If you are sure you wish to replace the species, click 'OK'.

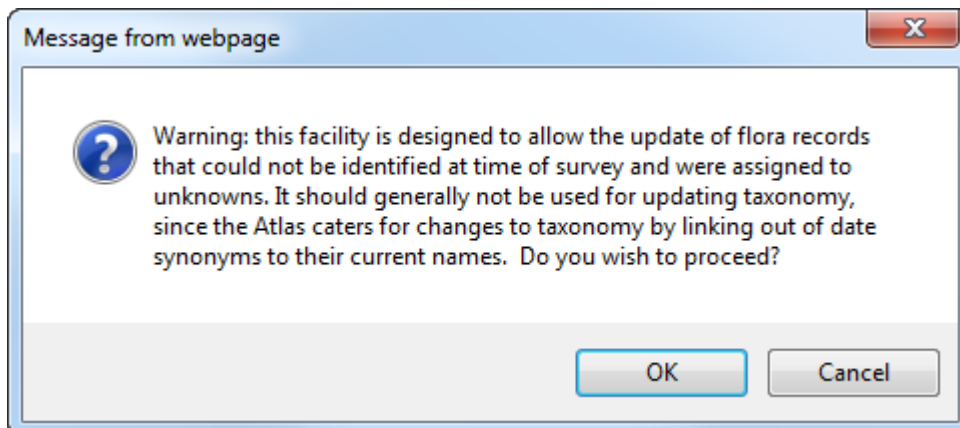


Figure 11.16 Warning message

11.1.2 Saving the survey data

- When you are satisfied with the information you have entered for your new survey you can click 'Save' at the top right of screen within any of the tabs.
- If you have missed a required field or filled in a field incorrectly you will be notified with an error message(s) in red at the top left of screen (see Figure 11.17). When you navigate to the tab in which the error occurs the erroneous field will be marked by a red asterisk (*), or in the case of the 'Principal' and 'Plot design' tabs where you have failed to provide any details a text message in red asking you to provide details.



There was error saving the record. Please correct the error/s below.

- Survey code cannot be empty.
- At least one principal must be provided.
- Species score method cannot be empty.
- At least one survey plot type must be provided.
- Dataset cannot be empty.

Figure 11.17 Sample error message

3. Rectify any problems and click 'Save' again. The error message(s) should disappear, and you will be directed to the initial 'Data maintenance' page. If this does not happen, you will need to correct any remaining errors as flagged.
4. You will notice that your survey has been successfully saved by the appearance of your survey's name at the top left of screen (see Figure 11.18). Once you have saved you may like to add sites to your survey. This may be achieved by navigating to the 'Sites' tab and clicking the now active 'New' button.

Please note that the Criteria sub-section of the 'Sites' tab search now has your survey's code in the 'Survey code' text box, with no results returned (see Figure 11.18).

Flora survey

Survey name: Hurstville_Central

Note: fields marked with * are required

General	Principal	Scoring systems	Plot design	Security	Publications	Sites	Replace Species
---------	-----------	-----------------	-------------	----------	--------------	-------	-----------------

Criteria

Site number:

Survey name:

Principal:

Observer:

Custodian:

Census key:

PCT ID:

PCT Name:

Entire area
 Select a geographic area

Replicate date ?

From date: To date:

No sites found...

Figure 11.18 Indicators of a successfully saved survey

11.2 Site data

Do not create a site unless you intend to create at least one replicate immediately afterwards.

As previously mentioned, in the 'Flora surveys' module the term 'Site' has a slightly different connotation to that which it had under previous iterations of the vegetation survey database.

A site now relates to a particular spatial location, while replicate relates to the point-in-time at which that site is assessed using one of the survey methods. As a result of this change, some sites will occur in a number of different surveys concurrently, possibly within fauna surveys, not just other flora surveys. Consequently, the database stores 'Survey' and 'Site' independently and does not link them. In order to link a Survey with a Site you will need to create a replicate after saving your Site data.

11.2.1 Creating a new site

Sites may be created by searching the 'Surveys' tab of the 'Data maintenance' page for a specific survey within the 'Sites' tab of the 'Flora surveys' page.

'Surveys' tab within the 'Data maintenance' page

1. Search by the appropriate field (preferably using 'Survey code' to ensure the Site is attributed to the correct survey) in the 'Surveys' tab of the 'Data maintenance' page.
2. Select 'New Site'.
3. If you need to review the survey details first you can click 'Review', or the survey's code.
4. Review the survey as necessary and then navigate to the 'Sites' tab.

'Sites' tab within the 'Flora surveys' page

1. Once you have navigated to the 'Sites' tab of a successfully saved Survey you should see an active 'New' button at the top right of screen. Click on this to be directed to the 'Location' tab of the 'Flora survey site' page.
2. If you are adding a site to a survey with existing sites a list will be generated at the bottom of the page, with the option to 'Review' each individual site.
3. Once you are at the 'Flora survey site' page you will see two blank fields at the top of the page – Site number and Date recorded (see Figure 11.19).

Flora survey site

Survey name: Hurstville_Central

Note: fields marked with * are required

Site number*:	<input type="text"/>
Date recorded*:	<input type="text"/>

Figure 11.19 Complete the 'Site number' and 'Date recorded' fields to establish a new site

11.2.2 Defining a new site

Site numbers are restricted to alphanumeric characters, underscore (_) and dash (-). If you enter an invalid character you will receive an 'Invalid site number' message when you exit the text field.

You may adopt your own site numbering system ensuring that each site number is unique. While the 'site number' field is a free field, simple site numbers such as '1' or 'Site 1' should be avoided. It is far better to come up with a unique prefix for the survey and then number the sites based on that.

1. When you begin typing in the 'Site number' text field a dropdown menu with similarly numbered sites will appear as in Figure 11.20.

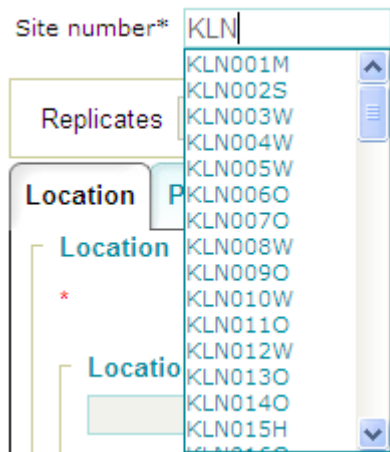


Figure 11.20 Example of entering a site number to display existing sites that share the values entered

2. From the sites visible in Figure 11.30, there are at least 15 sites in the database for the Kulnura (KLN) 1:25 000 mapsheet. Subsequent sites should reflect this numbering.
3. If you enter an existing site number, then you will receive a pop-up (see Figure 11.21).

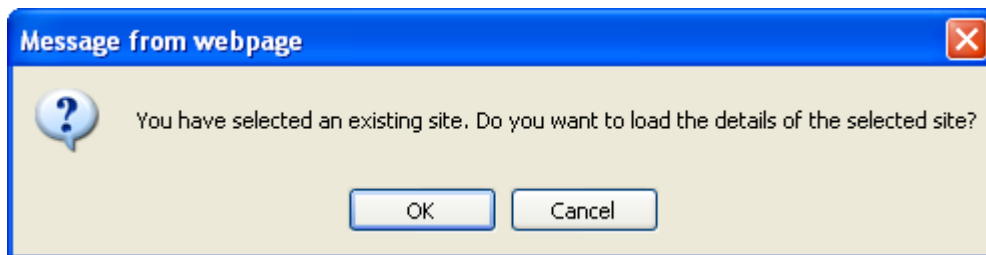


Figure 11.21 Site selection warning pop-up

4. Clicking 'OK' will load the existing site details for you to review. You can scroll across each of the tabs to examine the site information. Click 'Cancel' if you are unsure.

The following steps should only be followed if you were aware of the site's details and existence prior to reviewing the details within Flora surveys, e.g. you, or your organisation, were responsible for initially establishing the site. If this is not the case it is strongly advised that you establish a new site number following the earlier defined protocol.

5. If, upon review, the site details are correct, click 'Save' at the top right of screen (see Table 2 for information about the fields). Please note the site will only be linked to the survey once you start adding replicates.
6. If you have extra information to add, or you wish to alter the existing information within the location tab you may do so by clicking 'Review' at the top right of the screen. This will open a Review location pop-up displaying the location information with edit privileges (see Figure 11.22).

Please be aware that any **changes you make and save here will affect other sites linked to that particular location**, as well as the locations of any sightings within other BioNet Atlas modules linked to that particular location (e.g. flora species identified within replicates linked to that site).

Please do **not** save any alterations unless you are certain about the changes you are making.

If you are in any doubt, please contact the [BioNet team](#).

Figure 11.22 'Review location' pop-up

7. If you make any alterations, click 'Save' at the top right of screen. You will then see a pop-up confirming whether you wish to proceed.
8. If you accept, click 'OK'. The pop-up will disappear, and the 'Location' tab will populate with the details you just entered.
9. All other tabs are writeable without the requirement of the 'Review' button.
10. To save any changes on these tabs, make your amendments and click 'Save'.

11.2.3 Populating the site data fields

Once you have settled on an appropriate site number:

1. Enter the date field work was conducted. Ensure you fill this with **the date of the earliest replicate** that will be linked with the site.
2. When you navigate to this field a pop-up allowing you to select the date by calendar will appear. The current date will appear, highlighted in yellow (see Figure 11.23). You can also manually enter the date yourself in the format dd/mm/yyyy.
3. If you click out of this field with the date entered incorrectly you will receive an 'Invalid date' error message.

Flora survey site

Survey name: Hurstville_Central

Note: fields marked with * are required

Site number*: KLN008W

Date recorded*: / /

Location Key: []

Description: []

September 2012

Mo	Tu	We	Th	Fr	Sa	Su
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Figure 11.23 Calendar pop-up

Below the date field are six tabs:

- 'Location'
- 'Physiography'
- 'Survey Specific'
- 'Transect'
- 'Mapping'
- 'Other'.

'Location' tab

Location: Physiography | Survey specific | **Transect** | Mapping | Other

Location Key: LPJ019172489

Description: Korora Nature Reserve 100m south of Korora Basin Road west of Pacific Hwy.

Georeference

Co-ordinate system: GDA94 GPS

Original unit type: MGA Coordinates

Projected co-ordinates	
Zone	56
Easting	612988
Northing	6653253
Accuracy(m)	10.0000

Geographic co-ordinates		
Degrees	Latitude	Longitude
Minutes	-30	153
Seconds	15	7
	82	81.1
	-30.26227289	153.13084815

Location attributes

Geology type: Sand/Clay/Alluvium

Structural formation: []

Vegetation formation: []

Confidence: []

Slope of area: 5

Aspect of area: 90

Altitude: []

History

Date created: 17/08/2010 16:03:03

Created by: Karen Caves

Date updated: 31/03/2011 15:52:00

Updated by: Paul Sheringham

Notes: []

Review | New | Search

Figure 11.24 'Location' tab within the 'Flora survey site' page

You may add a location to your site by one of two methods:

- Searching on existing locations
- Creating a new location.

Searching for an existing location

Only use search if you know the location exists within the BioNet Atlas database. Preferably you will have created the location. If this is not the case, please proceed straight to the subsection 'Creating a new location'.

1. To search for an existing location, you will need to select 'Search'. This will open a 'Search for locations' pop-up.
2. You can search by either 'Location key' or 'Description'. The fastest criterion to search by is location key, as searching by a description may yield hundreds of results (e.g. see Figure 11.25 search results using the term 'Park').

Location key	Description	
LAQF04051101	Black Rock Camping Area and Jerusalem Creek Fire Trail, Bundjalung National Park Specified Map No: 9539 Specified Reserve: Bundjalung NP	Select
6372-HO	Bobin Head road, Ku-ring-gai Chase National Park. Near North Turramurra Specified Map No: 9130 Specified Reserve: Ku-ring-gai Chase NP	Select
LMQS01032201	Ironbark lane Lower Hunter National Park Specified Map No: 9132-2-N Specified Reserve: Werakata NP	Select
LPXEI0012077	Specified Map No: 9441 Specified Reserve: Moore Park NR	Select
LPXEI0012294	Specified Map No: 9540 Specified Reserve: Victoria Park NR	Select
LPJGI0143318	Towarri National Park : on top of main plateau	Select
	Malleum NP, Devlin Creek, Turbulla Creek, Approx 2.85km upstream of park boundary and Lot	

Figure 11.25 Location search results for 'park'

3. If you can identify the location you wish to add to your site, click 'Select'. The pop-up will close, and the details of your nominated location will appear in the location tab.
4. Review these and if they are as you expected, you can navigate to the next tab or click 'Save'. If the location you selected was not your desired location, you can either search again or create a new location. The selected location will not be saved until you click 'Save'.
5. Once you have clicked 'Save' the 'Site number' and 'Date recorded' fields should disappear and be replaced by a read-only Site number and a replicate dropdown menu.

Creating a new location

To add a new location, click the 'New' button on the far top right of the screen within the 'Location' tab. This will open a 'New location' pop-up (see Figure 11.26).

Figure 11.26 'New location' pop-up

6. Fill the fields as appropriate. Table 11.3 describes the attributes of the various fields with mandatory fields marked with an asterisk.

Table 11.3 Descriptions of the fields used in the 'Location' tab

Field	Description
Location key	Reference key used to uniquely identify individual location records. This field automatically populates on successful save. Reference this number if you would like to use this location elsewhere in the BioNet Atlas application.
Description*	Refers to a detailed description of the geographic location, such as place name, street, nearest cross-street, landmark or location within a reserve. Give as much detail as possible.
Datum*	<p>The 'Georeference' box in the middle of the screen allows for entry of coordinates. Only one coordinate system needs to be supplied. That is, either the Projected Coordinate System (Zone, Easting and Northing) or the Geographic Coordinate System (Latitude and Longitude).</p> <p>Before you start entering the coordinates, ensure you know the Datum of the coordinates you are entering (as once you start typing in either coordinates type, the Original Unit type field will be populated appropriately depending on the selected Datum) The Datum is set to GDA94 by default. If the coordinates you are entering are in AGD66, select AGD66 from the dropdown menu.</p>
Coordinates*	<p>Enter the Coordinates in either coordinate system - projected or geographic.</p> <p>Projected Coordinate System with:</p> <ul style="list-style-type: none"> • Zone – two digits • Easting – six digits • Northing – seven digits <p>Geographic Coordinate System (Latitude and Longitude). Note that you can either enter Latitude Longitude in:</p> <ul style="list-style-type: none"> • Degrees, Minutes, Seconds

Field	Description
	<ul style="list-style-type: none"> • Decimal Degrees (entered in the Degrees box) • Degrees, decimal minutes. <p>Note that Latitude must begin with a number between -40 and -20. Longitude must be a number between 138 and 162.</p>
GPS	If a GPS was used to obtain the coordinates, check the GPS checkbox. Otherwise, leave this field blank.
Accuracy*	Refers to how accurately the coordinates represent the exact location of the site (in metres). For example, a value of 100 would mean that the location is accurate to the nearest 100m. If you used a GPS the accuracy will have been displayed on-screen. Enter a value, in metres.
Original Unit Type	The coordinate system for which the values were entered is automatically populated in the Original Unit type field.
Geology	Select the main geology on site from the dropdown provided.
Vegetation type	Select from dropdown.
Slope of area	Slope from the horizontal in degrees. Range is between 0 and 90. Integers only.
Aspect of area	Integers only (in degrees), starting from 0 as North and then going in a clockwise direction. Range is between 0 and 360.
Altitude	Vertical height above sea level (in metres). Range is ≥ 0 to <2500 . Integers only.
Notes	Enter any additional notes regarding the location that are not relevant to existing fields, or that do not fit within the existing fields (e.g. secondary geology).

* Indicates mandatory field

- Once you have finished entering the location details, click on the 'Save' button at the top right of screen to save the location. The 'New location' pop-up will disappear and the values you entered will be stored in the 'Location' tab (see Figure 11.27). Be aware that the system will display coordinates in GDA94 by default.
- If you have entered your coordinates in AGD66 and notice they have been altered once you save them, please remember this transformation. If the original unit type field differs from that nominated, then review the coordinates.
- If you intend to use the location for another module of the BioNet Atlas database ('Species sightings', or 'Fauna survey'), take note of the 'Location key' that is generated as this is unique for this particular location (i.e. all the data entered at this tab).

Flora survey site

Survey name: **Hurstville_Central**

Note: fields marked with * are required Save

Site number*:

Date recorded*:

Location | Physiography | Survey specific | Transect | Mapping | Other

Location Key:

Description
Black Rock Camping Area and Jerusalem Creek Fire Trail, Bundjalung National Park Specified Map No: 5539 Specified Reserve: Bundjalung NP

Georeference
Co-ordinate system: GPS
Original unit type:

Projected co-ordinates		
Zone		58
Easting		538633
Northing		6765813
Accuracy(m)		1000 0000

Geographic co-ordinates		
Degrees	Latitude	Longitude
	-23	153
Minutes	14	22
Seconds	5.4	37.1
	-28.236967231	153.376971923

Location attributes
Geology type:
Structural formation:
Vegetation formation:
Confidence:
Slope of area:
Aspect of area:
Altitude:

History
Date created: 11/05/2004 11:27:15
Created by: Alex Fraser
Date updated: 11/05/2004 11:27:15
Updated by: Alex Fraser

Notes

Layer Type	Area Name
LGA	RICHMOND VALLEY
Reserve	Bundjalung NP
Mapsheet Number	5539-1-S - TABMOBLE
Mapsheet Number	5539 - WOODBURN
CMA	Northern Rivers
CMA Subregion	Northern Rivers - Clarence Lowlands

Figure 11.27 Populated calculated areas field and Street map link

10. In addition to the values you previously entered, note that there are two additional changes to the original 'Location' tab.
- o The 'StreetMap' icon in the Geographic coordinates box. Clicking on this opens a pop-up map displaying your coordinates on a map. It is good practice to check this after you have entered your coordinates to confirm they are in the correct location.
 - o The 'Calculated Area(s)' box lists all the spatial layers that are referenced via BioNet Atlas (i.e. the Layer Type) and the corresponding locality (i.e. Object Name) that your location falls within.

'Physiography' tab

Location | **Physiography** | Survey specific | Transect | Mapping | Other

Morphological type:

Landform element: Landform pattern:

Soil colour: Soil surface texture:

Soil depth: Microrelief:

Name of nearest water:

Distance to nearest water (m):

Figure 11.28 'Physiography' tab within the 'Flora survey site' page

Use the 'Physiography' tab to describe the physical features of the site (see Figure 11.28). Most options provided here are available as dropdowns. Their features are described in Table 11.4.

Table 11.4 Attributes of the fields available in the ‘Physiography’ tab

Field	Description
Morphological type	The form of the land at the plot site. Select from the dropdown provided.
Landform element	Recorded for landforms within a 20m radius of the plot centre. Select from the dropdown provided.
Landform pattern	Recorded for landforms within a 300m radius of the site. Select from the dropdown provided.
Microrelief	Localised, naturally occurring, small (<1m approx.) and abrupt changes in relief; conditions such as Gilgai, mound springs and hummocking. Select from the dropdown provided.
Lithology	Automatically populated from geology details entered into the ‘Location’ tab.
Soil surface texture	This indicates the ratio of sand, silt and clay sized particles in the soil. Field texture is determined by the behaviour of a ball of moistened soil.
Soil colour	Based on Munsell code. Select from the options available in the dropdown.
Soil depth	Estimate the depth of soil at the site. Select from the dropdown provided.
Name of nearest water	Enter the name of the nearest water body. Free text field limited to 50 characters.
Distance to nearest water	Distance (in metres) from the plot centre to the nearest point of the water body. Restricted to 13 integers.

‘Survey specific’ tab

This tab allows you to enter information about the stratification and describe the site marker and its position (see Figure 11.29). Stratification is a free text field restricted to 10 characters.

The screenshot shows the 'Survey specific' tab selected in a navigation bar. Below the navigation bar, there is a form with the following fields:

- Stratification:** A text input field containing the word "abiotic".
- Site marker:** A section containing two dropdown menus:
 - Type:** A dropdown menu with a downward arrow.
 - Position:** A dropdown menu with a downward arrow.

Figure 11.29 ‘Survey specific’ tab within the ‘Flora survey site’ page

If a site marker was designated please identify the type (e.g. post, waterpipe...) and its position on site from the dropdown menus provided. If there was no site marker this can be selected as ‘None’ from the dropdown.

'Transect' tab

Figure 11.30 'Transect' tab within the 'Flora surveys site' page

This tab allows you to enter specific start and end coordinate information for any ground cover transect done within the site; its orientation (must be between 0 and 360) and length (restricted to seven digits; one decimal place):

1. Select the datum of the coordinates you are providing. As with the 'Location' tab, fill out either projected, or geographics.
2. If filling geographic coordinates, you may use:
 - Degrees, minutes, seconds
 - Decimal degrees
 - Degrees, decimal minutes.
3. Orientation and transect length are requested to validate the coordinates supplied.

'Mapping' tab

Please fill in the appropriate Aerial photo and/or Satellite imagery mapping information (see Figure 11.31). Further information on field restrictions may be found in Table 11.5.

Figure 11.31 'Mapping' tab within the 'Flora surveys site' page

Table 11.5 Description of the fields available in the 'Mapping' tab

Field	Description
NSW/Cag No.	Free text field restricted to 10 characters.
Run No.	Free text field restricted to 10 characters.
Scale	Specify the scale of the image. Restricted to five integers.

Field	Description
Frame number	Provide the number of the individual photo. Free text field restricted to 10 characters.
Run date	Date of aerial photo. Select from calendar pop-up. Date should be >01/01/1850.
Image type	Free text field.
Path	Free text field restricted to 10 characters.
Row	Free text field.
Date	Date of satellite image. Select from calendar pop-up.
Land Unit	Free text field.

‘Other’ tab

This tab is used to fill in any extra information regarding the site that you have recorded which does not belong in the earlier tabs. Please refer to Table 11.6 for further information on the fields.

Figure 11.32 ‘Other’ tab within the ‘Flora survey site’ page

Table 11.6 Description of the fields available in the ‘Other’ tab

Field	Description
Horizon azimuths	The angle at which the horizon can be seen at the eight cardinal compass points i.e. the lowest point at which the sky is visible. Range is limited to between -90 and 90. Three characters only.
Horizon visibility	Select from dropdown.
Tenure	Select from dropdown. Select the most appropriate (e.g. if the land is currently private land but has been acquired as parks land, mark the tenure as national park).
Geological map	Geology as defined by geological map. This is a free text field.

Field	Description
User-defined geological map	If field observations conflicted with those suggested by the geological map, please note your observations here. Free text field.
Geology observed at the site	Describe the predominant geology on site. This is a free text field.
Geomorphological action	Select from provided dropdown menu.
Amount of outcropping	Percentage of rock attached to or is itself presumed to be bedrock substrate. This field is restricted to an integer, between 0 -100.
Amount of surface rock	Percentage of any other exposed surface rock on site that is ≥ 20 mm. This field is restricted to an integer, between 0 -100.

11.2.4 Saving the site data

1. Once you are happy with the data you have filled in the respective tabs of the 'Flora survey site' page select 'Save' at the top right of screen at any point.
2. If you have incorrectly filled a field, or left out a required field you will receive a red error message at the top of the page, as was the case for Saving survey data ([Section 11.1.2](#)). Go through and rectify any errors and click 'Save' again.
3. If you successfully save your data you will be redirected to the 'Location' tab and the 'Site number text' box at the top left of screen should disappear and be replaced by your elected site number in a similar fashion to, and immediately beneath the 'Survey code' (which should now be a hyperlink back to the saved Survey; see Figure 11.33).

Flora survey site

Survey name: [Hurstville_Central](#)

Site number: A1_35

Replicates

Existing replicates:

Figure 11.33 A successfully saved site

Note the replicate dropdown that has appeared. **You will need to add at least one replicate to your site in order to link the site to the survey.** If you exit at this point your site will not be associated with any survey.

4. To create a replicate, click 'New replicate' in the Replicates box (see Figure 11.34).

Flora survey site

Survey name: [Hurstville_Central](#)

Site number: A1_35

Replicates

Existing replicates:

Figure 11.34 Creating a replicate

5. Selecting 'New replicate' will take you to the New replicate (census) page.

11.3 'Replicates' within sites

- To access the 'replicate' section, you will need to access the appropriate site for which you wish to create a replicate. You may do this by searching for:
 - a specific site within the 'Sites' tab of the 'Data maintenance' page, or
 - searching for a survey within the 'Survey' tab of the 'Data maintenance' page and reviewing the relevant site.
- From either of these points, select 'New replicate' from the 'Replicates' dropdown menu at the top left of the screen (see Figure 11.35). At the top left of page, you can see the hierarchy for your new replicate (see Figure 11.35). In this instance it belongs to 'Hurstville_Central, Site number A1_35'. The site number is a link that will allow you to review information at a higher level within the 'Flora surveys' module. **Verify both the site number and survey code are correct for your replicate before you create your replicate.**

New replicate 59:48 [Reset timer](#)

Survey name: Hurstville_Central
Site number: [A1_35](#)

Note: fields marked with * are required

Replicate no.*:
Start date*:

Figure 11.35 Creating a 'new replicate' (census)

- Flora surveys will prompt you for a 'Replicate number' (restricted to three integers) and a 'Start date' (the date the census was conducted). Both are mandatory fields to complete before you can progress. Once you have filled them click 'Save' at the bottom right of screen. Your site will now be linked to the nominated survey.

What if I cannot locate my site?

If you run a search based on a Survey code, at either the 'Survey' tab, or the 'Sites' tab and the results do not retrieve the desired site this may be due to the fact that when the site was initially created no replicates were assigned to it. This means that the site does not have any established link to the survey itself. Searching for the Site number in the 'Sites' tab will also fail to yield any result.

The problem is easily remedied by searching for the relevant survey in the 'Survey' tab and selecting 'New site' from the results. When you are prompted to enter your Site number, enter the Site that you previously created. As you do so, you will notice that the automatically filled dropdown will display your Site number (see Figure 11.36).

If you select this, you will receive a pop-up asking whether you want to load the site's details (see Figure 11.37).

Select 'OK' and review the details to confirm they are accurate.

Once you are satisfied 'Save' the site.

The replicate dropdown menu should now appear at the top left of screen, select 'New replicate'.

Flora survey site

Survey name: Hurstville_Central

Note: fields marked with * are required

Site number*: KLN
 Date recorded*: KLN001M
 KLN002S

Figure 11.36 Automatically populated Site number dropdown

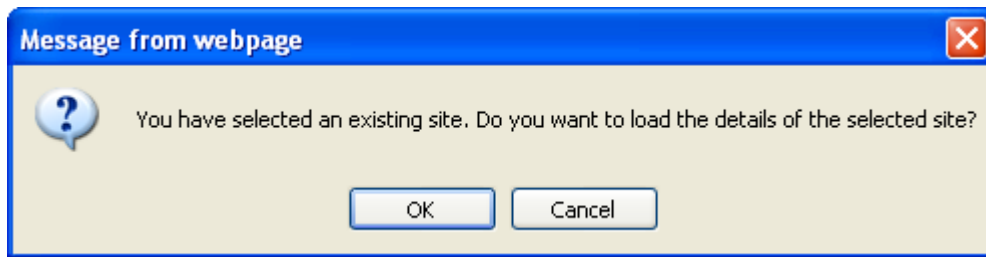


Figure 11.37 Pop-up confirming whether you want to load an existing site

11.3.1 Populating data fields for a site replicate

The three PCT-related fields at the top of the 'Replicate' page are not populated until data analysis for a vegetation classification project is complete. Only Classification Edit users can populate these fields.

The first tab within the 'Replicate' page of the 'Flora surveys' module is the 'General' tab. This allows for basic information about the replicate to be entered, including start and end dates, recorders and plot information.

As with the 'Site' screen, the hierarchy can be viewed on the top left of screen – listing the survey and site that you are working within. The number in brackets after the site indicates the number of the replicate that you are creating.

'General' tab

Replicate

Survey name: Hurstville_Central
 Site number: A1_35 (1)

General NVIS level v Condition Land use Site history Disturbance Species Ground cover Graphics

Note: fields marked with * are required

Date range
 Start date*: 05/09/2012 End date*: 05/09/2012

Recorders
 No recorders available New Search

Plot details
 Full floristics?

Plot size settings
 Simple Unspecified Other

Size options
 20x20m 20x50m Other

Plot Sizes

Comments
 May contain only 500 characters long. Update

Figure 11.38 'General' tab within the 'Replicate' page

The 'General' tab is split into five sections:

- 'Date range': start and end dates for the census.
- 'Recorders': table listing the recorders that conducted the census.
- 'Plot details': consists of a full floristics check box. This should be ticked if you undertook a full floristics analysis.
- 'Plot size settings': captures information regarding plot and subplot sizes. The different options have different fields associated.
- 'Comments': free text field for any extra notes that were made.

Date range

Select the start and end dates for your replicate using the dropdowns provided.

These fields are automatically populated based on the date you entered when you numbered your replicate. Where the exact day is known, the end date should be the same as start date. However, where the exact day is not known then the end date can be used to specify a range within which the recording took place.

Recorders

Recorders are also known as observers within BioNet Atlas. This fact is evidenced at the 'Data maintenance' page – where a search for Principal/Observer translates to a search for Principal/Recorder.

Due to this link the process for entering your recorder(s) is similar to that used to enter principals at the survey level ([Section 11.1.1](#)).

OEH users

Recorder(s) may be added by one of two methods: clicking 'New' or 'Search'.

You should first **search** for your desired recorder before attempting to create a new recorder. Remember this dataset is used across all the modules (Flora surveys, Fauna surveys and Species sightings) within BioNet Atlas (and is a common dataset for both recorder and principal).

Searching for a recorder

When you click 'Search' a pop-up will open asking you to specify your criteria, i.e. Surname and/or Given name(s). Remember all searches are conducted for results **containing** your criteria (see Figure 11.39).

Criteria

Surname:

Given name(s):

Results **51-60** of **366**

... 6 7 8 9 10 ...

Observer key	Surname	Given names	Address	
NSWOBS-13896	Smith	A.J.		Select
NSWOBS-13897	Smith	A.M.	NSW	Select
VEG-SMIA	Smith	Aaron		Select
ODMP0607270D	Smith	Adam	NSW	Select
OJS07112200	Smith	Adam		Select
F-OBS000340	SMITH	Alan	NSW	Select
SFOBS-621	Smith	Alan		Select
ODMP10020422	Smith	Alastair		Select
HILA	Smith	Amanda		Select
OAWS04072100	Smith	Amanda Elizabeth	NSW	Select

Figure 11.39 Recorder search results

Licensed users

If you cannot locate your recorder via the search, please contact the [BioNet team](#) in order to have the recorder added to your observer table.

The remainder of information in this section is for OEH staff only. Please skip ahead to the plot details section on the next page.

Creating a new recorder

- To create a new recorder, click 'New' at the top right of the screen. This will open a 'New recorder' pop-up window split into two sections (see Figure 11.40):
 - Personal details – at the very least you will need to supply the recorder's surname and initials. Preferably (and to reduce recorder duplication) first name should also be provided. As Figure 11.50 reveals it would be very difficult to discern the individuals displayed in those results had they all been entered with their first initial only.
 - Address details – although these fields are not compulsory, they should be filled out with as much information as possible. More complete information increases the ability to rely on the data by providing an individual who can be contacted to respond to any queries about the data. It also allows duplicate observer records of the same individual to be more reliably identified.

Figure 11.40 'New recorder' pop-up within the replicate level

- When you are done click 'Save' at the top right of screen to create the new recorder. Your new recorder should now appear in the Recorders section of the 'General' tab, along with the options to 'Review' or 'Remove'.

Plot details

This sub-section is only a check box. If your replicate consisted of a full floristics analysis (i.e. you recorded every species present within your sampling area, both native and non-native) then please check this box.

If you conducted a targeted analysis and only recorded the presence of certain species, then do **not** check this box.

Plot size settings

This section is designed to capture information regarding the size, type and shape of plots used in the replicate. What you see will depend on which plot methodology was used.

Although the Simple plot methodology on the left does not require much information, selecting 'Other' (e.g. Contiguous plot methodology), will present you with many more options.

The flow chart in Figure 11.41 provides a walk through demonstrating the options you will need to go through depending on your elected methodology.

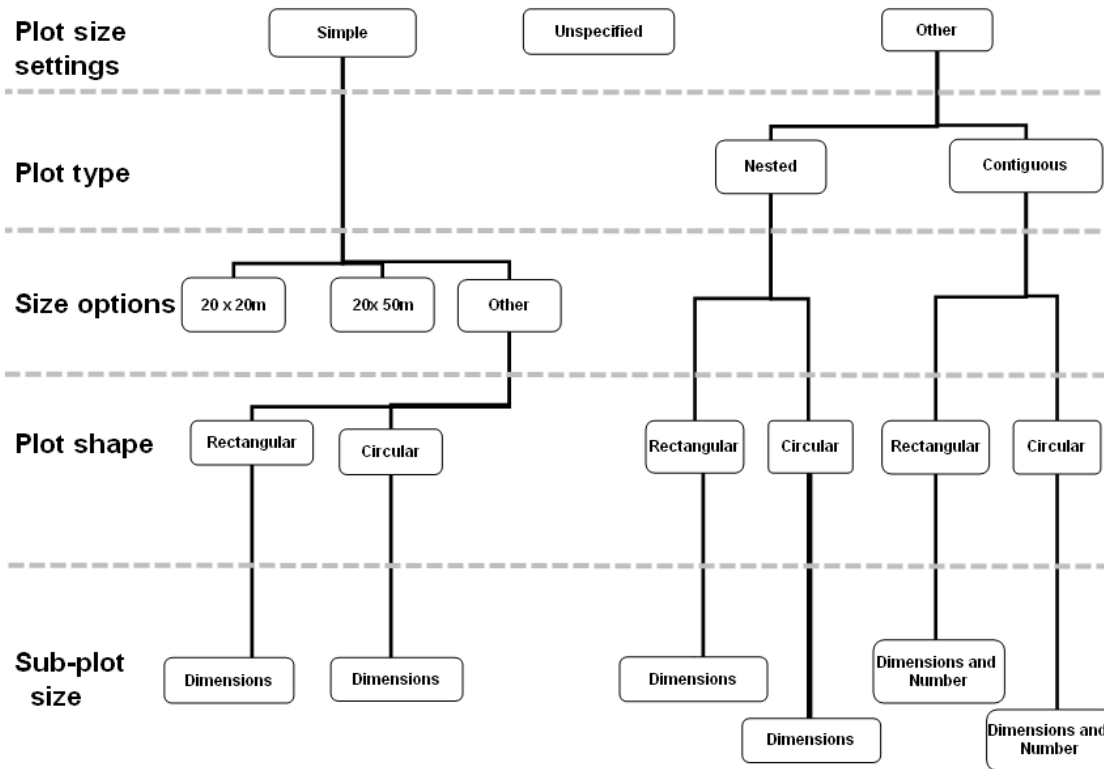


Figure 11.41 Flow chart depicting the various levels and options available for Plot information.

The options available are dependent on the methodology that you select. For example, if you elect 'Unspecified' at the plot size settings level, then you will not see any further options.

- Plot size settings: Nominate one of the following three options:
 - Simple – if your plots were of uniform size. You will then need to select your 'Size' options.
 - Unspecified – if you do not have any measurements available. If you click this radio button, try and enter some details in the comments if you can. Click 'Update' at the bottom right of screen to save your information. You will receive a pop-up notifying you that you have successfully updated your data.
 - Other – if subplots were used. You will then need to elect your Plot type.
- Plot type: only appears if you select Other at the Plot size setting. Nominate either nested, or contiguous subplots, by checking the appropriate radio button.
- Size options: only for Simple plot sizes.
- If your plots were of standard dimensions, select the relevant radio button. If they were of non-standard dimensions, select 'Other'.
- Plot shape: only appears if you selected 'Other' at either the Plot size settings or size options stage.
- Nominate either 'Rectangular' or 'Circular' by clicking the appropriate radio button.
- Subplot size: only for 'Other' plot sizes.

Enter the dimensions of your plot as appropriate (length and width if rectangular, radius for circular plots). This field is restricted to integers only. When you are done entering your plot size(s) and, if necessary, number, click 'Add subplot' immediately under the Subplot dimensions box. The Plot size(s) table should update accordingly.

Nested subplots

1. Enter each subplot dimension individually and click 'Add subplot' after each dimension. The dimension box will clear each time and your measurements should appear in the Plot Sizes sub-section.
2. Continue entering and clicking 'Add subplot', the Plot sizes sub-section will update accordingly. If you make a mistake you can click the Remove button alongside the row you wish to delete. This will open a pop-up confirming whether you wish to delete that subplot.
3. Click 'OK' to confirm the delete. The subplot should be removed from the Plot sizes summary table.
4. If you mistakenly clicked 'Remove' then click 'Cancel'.

Contiguous subplots

1. A summary list of the plots that you have created will be displayed under the heading Plot size(s) (see Figure 11.42). This list will automatically refresh each time you add new plot dimensions and the number of associated subplots of that size using 'Add subplot'. The addition of the Number of subplots field (see Figure 11.42). Please enter the number of subplots here. This field is restricted to integers only.
2. Both boxes will clear once you click 'Add subplot'. If you make a mistake you can click the Remove button alongside the row you wish to delete. This will open a pop-up confirming whether you wish to delete that subplot.
3. Click 'OK' to confirm the delete. The subplot should be removed from the Plot sizes summary table.
4. If you mistakenly clicked 'Remove' then click 'Cancel'.

Sub-plot size

Sub-plot:

x m

May contain only numbers greater than zero(0).

Number of sub-plots:

May contain only numbers greater than zero(0).

Figure 11.42 Subplot size sub-section allows you to enter the 'Number of subplots' for contiguous plot methodology

If you have elected 'Simple' (either 20m x 20m, or 20m x 50m) or 'Unspecified' at the Plot size settings then no list will be generated.

11.3.2 Capturing structural data ('NVIS Level V' tab)

The 'NVIS Level V' tab captures vegetation information at various strata. Although you can enter species information here, only enter information for the dominant species identified in each stratum. Full floristics information should be entered at the 'Species' tab.



Figure 11.43 'NVIS level V' tab within the 'Replicate' page

Creating a new stratum

The 'NVIS level V' tab displays a table with six columns. The last column header, 'New' (see Figure 11.44), is a link that will open a New strata pop-up allowing you to fill in the stratum height and percent cover information presented in the columns (see Figure 11.44).

1. To successfully save the strata you are only required to define the strata type.
2. Enter the stratum information as appropriate, using the dropdown and filling in the height and percentage cover fields as appropriate. Ensure that your heights are entered in the following fashion: Lower height ≤ Mode height ≤ Upper height.

Table 11.7 summarises the accepted values for each field.

Figure 11.44 'New strata' pop-up

Table 11.7 Field values for 'New strata' pop-up

Field name	Description
Strata type	Select the appropriate stratum from the dropdown provided.
Lower height	The lower height of the stratum (in metres). Values must be between 0 and 99.99. This field is restricted to five characters - integers and decimal point (.) only. To two decimal places.

Field name	Description
Mode height	The mode height of the stratum (in metres). Values must be between 0 and 99.99. This field is restricted to five characters - integers and decimal point (.) only. To two decimal places.
Upper height	The upper height of the stratum (in metres). Values must be between 0 and 99.99. This field is restricted to five characters - integers and decimal point (.) only. To two decimal places.
% cover	Percent cover for the defined stratum (≤ 100), to one decimal place.

3. Once you are done click 'Save' located at the top right of the pop-up. The pop-up will close automatically, and your new stratum will appear in the 'NVIS level V' tab table.
4. Once you have defined your stratum the next step is to identify the dominant species.

Identifying the dominant species within a defined stratum

Once you have successfully defined a stratum a sub-table with three column headings will appear.

1. Click 'New' listed under your newly defined stratum (see Figure 11.45). A 'New strata dominant' pop-up will appear on-screen (see Figure 11.46). This contains a number of fields and a 'Select Species' section. The 'Select Species' section is actually a search box only and should be the first component of the pop-up that you complete.



Figure 11.45 Defining dominant species within strata in the 'NVIS level V' tab

New strata dominant

Note: fields marked with * are required Save

Strata type: Ground
 Growth form:

Select Species
 To select a species use the below search then select the species from the dropdown menu.

Genus:
 Species:
 Search
 Species*:
 Intraspecies:

Lower height (m): May contain only numbers up to two(2) decimals.
 Upper height (m): May contain only numbers up to two(2) decimals.

Cover score:
 Abundance score:
 % cover actual:
 Abundance actual:

Field no.: May contain only numbers up to one(1) decimal.
 RBG no.:

Voucher location:

Figure 11.46 'New strata dominant' pop-up

2. Enter the species for each stratum in order of dominance (i.e. predominant species first).
3. Enter the desired 'Genus' and 'Species' in the fields contained within the box and click 'Search'.
4. When your search is complete, the 'Species' dropdown box located immediately below the Criteria sub-section will change from a greyed out dropdown box to an active one, allowing you to select your species from the filtered list.
5. Click within the blank field to display the dropdown (see Figure 11.47). The number in brackets is the current Census of Australian plant species taxa (CAPS) code.

Figure 11.47 Activated species dropdown in the ‘New strata dominant’ pop-up

If you cannot see your species, confirm your search criteria. Note that nomenclature will reflect that adopted in [PlantNet](#) and [APNI](#), however for threatened species, nomenclature will always follow the *Biodiversity Conservation Act 2016*, so please try synonyms. If in doubt contact the [BioNet team](#).

- Based on your selection at this point the ‘Infraspecies’ field will automatically fill, if appropriate.

Table 11.8 provides information on the remainder of the fields provided and their restrictions.

Table 11.8 Descriptions of the fields available in the ‘New strata dominant’ pop-up

Field	Description
Growth form	Select the applicable growth form for your species from the available dropdown. Within the Species tab these are coded.
Species	Dropdown (this will only become active once you conduct a search in the criteria section) – populated by the information you enter in the Criteria search section. The number in brackets represents the species CAPS number.
Infraspecies	This field will automatically populate, if appropriate, dependent on the defined species.
Cover score	Fill in as appropriate based on your chosen scoring methodology (specified at the Survey level). If you submit data here, please leave % cover actual field blank. This is a free text field.

Field	Description
Abundance score	Fill in as appropriate based on your chosen scoring methodology (specified at the Survey level). If you submit data here, please leave the abundance actual field blank. This is a free text field.
% cover actual	Fill in if you took cover measurements. If you submit data here, please leave the cover score field blank. This is a free text field.
Abundance actual	Fill in if you took abundance measurements. If you submit data here, please leave the abundance score field blank. This is a free text field.
Lower height	Provide measurements of the minimum crown height (m) for your elected species within this stratum. Five characters, numbers only (to two decimal places) The value entered here must be less than the value entered for upper height. This number should not be less than the height entered for lower height at the strata level (i.e. in the New strata pop-up).
Upper height	Provide measurements of the maximum crown height (m) for your elected species within this stratum. Five characters, numbers only (to two decimal places). The value entered here must be greater than the value entered at lower height. This number should not be greater than the height entered for upper height at the strata level (i.e. in the New strata pop-up).
Field no.	If a specimen was taken please provide the specimen number allocated in the field. This is a free text field.
RBG no	If a specimen was provided to the Royal Botanic Gardens, please provide the specimen number allocated by the RBG. This is a free text field.
Voucher location	Please select the name of the institution at which your specimen was lodged from the dropdown list provided. Within the Species tab these are coded.

- When you are satisfied with the details you have entered click 'Save'. The pop-up will disappear, and you will return to the 'NVIS level V' tab.
- Your species will be displayed in the table underneath the appropriate stratum, with the options 'Review' and 'Remove' (see Figure 11.48).

Replicate

Survey name: [Hurstville_Central](#)
 Site number: [A1_35](#) (1)

General **NVIS level v** Condition Land use Site history Disturbance Species Ground cover Graphics

Strata type	Lower height (m)	Mode height (m)	Upper height (m)	% cover	New
Ground	.15	.45	1.50	85.0	Review Remove
Species synonym (code)	Growth form		New		
Microlaena stipoides (5037)	Tussock Grass		Review Remove		

Figure 11.48 New species displayed in the 'NVIS Level V' tab of the 'Replicate' page

- Add extra species and strata as necessary. If you attempt to add the same strata type twice you will receive a message notifying you that 'The strata cannot be duplicated'.

11.3.3 Capturing 'condition', 'land use', 'site history' and 'disturbance' data

The capturing 'condition', 'land use', 'site history' and 'disturbance data' tabs capture various health and history attributes regarding the 'replicate' area.

‘Condition’

This records vegetative health. This tab is split into two primary sections and three sub-sections.

1. Fill in the fields as appropriate:
 - ‘Condition (within 0.04ha)’ – use this section to provide details about the native richness (species counts) and cover, and exotic cover (percentages) at different stratum. All fields are restricted to 2-digit integers, except for Litter, Bare ground and Cryptograms (including algae, mosses, lichens, liverworts and hornworts) (%) which are limited to integers from 0 – 100.
 - ‘Condition (within 0.01ha quadrat)’ – This section deals specifically with woody species data. Provide a count of the number of trees with hollows, and woody debris. These fields are limited to 2-digit integers. The remainder of this section is split into three sub-sections:
 - Woody regeneration – provide details of the number of regenerating upper stratum species, AND a count of individuals of all regenerating species within the upper stratum. Both of these fields are limited to 2-digit integers.
 - Woody stem sizes – This table allows for the entry of DBH data for trees within four size class categories (5-10cm, 10-20cm, 20-30cm and 30+cm). Please note: Size(s) are only required when count is entered for size \geq 30cm DBH (measure all). For smaller enter the count or sizes (or both). The count field is restricted to 2-digit integers. Size(s) is restricted to integers only, separated by spaces to indicate a new individual.
 - Tree health – please check the appropriate radio button.
2. Click ‘Update’.

‘Land use’

Land use contains a series of dropdown menus.

1. Select the most appropriate options for your replicate. If you select ‘other’ for any of these fields provide details in the text box(es) that subsequently appear(s).
2. Click ‘Update’.

‘Site history’

Initially the ‘Site history’ tab will appear as a blank screen stating ‘No site history available’. To provide details:

1. Select the ‘New’ button at the far right of screen. This will open a ‘New site history’ pop-up which will allow you to enter the appropriate details pertaining to management regimes, their frequency and the time since last event.
2. Data entry is via dropdown list. The date recorded will auto-populate with the start date of the replicate.
3. When you are done click ‘Save’. The pop-up will close, and you will be returned to the ‘Site history’ tab with your data displayed.
4. If you need to add more than one, select the ‘New’ button again and enter details as appropriate.

‘Disturbance’

Like ‘Site history’, the ‘Disturbance’ tab will initially display a blank screen with the message ‘No site disturbance available’. To provide details:

1. Select 'New' at the far right of screen. This will open a 'New disturbance' pop-up, with dropdown menus allowing you to enter disturbance type, severity and time since last event. There is also a free text field provided for observational evidence (limited to 255 characters).
2. When you are done click 'Save'. The pop-up will close, and you will be returned to the 'Disturbance' tab with your data displayed.
3. If you need to add more than one, select 'New' again and enter details as appropriate.

11.3.4 Capturing species data

For large numbers of sightings at each replicate, you may wish to contribute your sighting records via the bulk upload process. Refer to Section 12 for details. If you wish to use the bulk upload process, skip over the 'Species' tab, enter any data into the 'Ground cover' and 'Graphics' tabs and then refer to Section 12 for instructions on completing and submitting your records via the custom spreadsheet.

The species tab includes the floristics and non-site spp.

At the top left of the tab is a summary box detailing the cover and abundance score(s) nominated at the 'Species score' tab within the 'Flora surveys' page. Please bear this information in mind when entering data in to the abundance and cover score(s).

At the top right are two radio buttons:

- 'Floristics' refers to all species within the specified replicate area.
- 'Non-site spp.' is for recording species observed $\leq 50m$ outside the plot but that occur within the same sampling unit. These species may be important sightings, or indicative of a particular community.

To start filling data

1. Select the appropriate radio button (see Figure 11.49).

Replicate

Survey name: [Hurstville_Central](#)
 Site number: [A1_35](#) (1)

General **NVIS level v** Condition Land use Site history Disturbance **Species** Ground cover Graphics

Survey score methods
 Cover score method: (unspecified)
 Abundance score method:

Species options
 Floristics Non-site spp.

Expand all Collapse all

Sub plot	Species name	Assigned name	Cover score	Abund score	Stratum	Growth form	Field no.	
1								Add species

Height to crown		RBG no.	% Cover actual	Abund actual	Voucher
min	max				

Figure 11.49 'Species' tab of the 'Replicate' page

2. Double click in the 'Species name' box to open a 'Search for species' pop-up (see Figure 11.50). Make your search as specific as possible, as only 99 results will be generated, listed alphabetically by scientific name. For example, if you attempt to add *Acacia decurrens* to your list by searching only on the genus *Acacia* the results will only display to *A. cowleana*. You will need to refine your criteria to be able to select *A. decurrens*.

The screenshot shows a search form with a teal header containing a 'Close' button. Below the header, there are three input fields labeled 'Genus', 'Species', and 'InfraSpecies', each with a corresponding text box. To the right of these fields is a 'Search' button. The form is set against a white background with a teal border.

Figure 11.50 'Search for species' pop-up in the 'Species' tab.

3. Enter the criteria for your desired Genus/species/infra species and click 'Search'. A results list will be generated below the three search boxes.
4. 'Select' your desired species to add it to your species list. Once you have chosen your required species you will be returned to the 'Species' tab. Two columns have now been automatically populated;
 - 'Species name': displays the name selected at search. Your initial search box will be filled with the species' CAPS code.
 - 'Assigned name': if the species has been reviewed and its taxonomy altered this field will display the current CAPS code and species name as it stands in the BioNet Atlas.
5. Enter the rest of your species details as appropriate.

The majority of fields here are similar to those in the 'NVIS level V' tab ([Section 11.3.2](#)) so further details will not be provided here, please refer back to Table 11.7 if necessary.

The fields unique to the 'Species' tab are:

- 'Sub-plot': please provide the subplot number the species was recorded in (if applicable i.e. a nested or contiguous plot method was used). If the plot was not divided into subplots simply leave it populated with the default value '1'.
- 'Stratum': please define the stratum the species was identified in. Options are available from a dropdown menu. Please note that species entered with the Non-site spp. radio button ticked will automatically be identified as AdU – additional unscored species. If identified as such you cannot alter this field.

6. When you are happy with the information you have entered for that species scroll to the end of the row and click 'Add species'. The row will change from white to pale olive and the 'Review' and 'Remove' options will appear (see Figure 11.51).

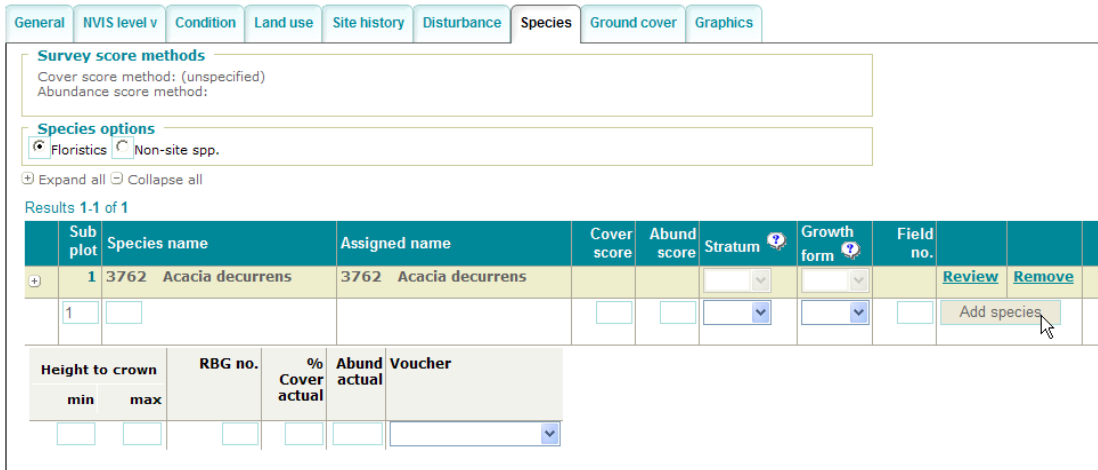


Figure 11.51 A successfully added species as it appears in the ‘Species’ tab

- To add further species double click within the empty species name text box and repeat the above process. The blank row will only appear on the last page. So, if you have entered 21, 41, 61... species you will need to navigate to the last page using the page links at the top right of the species table to continue adding species.

11.3.5 Capturing ‘ground cover’ data

- Enter ground cover data as appropriate. All fields are restricted to 2-digit integers. The total(s) column is a cumulative field that will sum data as you add. This field is not directly editable.
- When you are done entering your data click ‘Update’. You will receive a pop-up indicating that your data has been successfully updated.
- Click ‘Close’ at the top right of this pop-up to continue using flora survey.

11.3.6 Adding ‘graphics’

This tab allows you to load graphics and provide respective copyright and description details. Please ensure your graphic is less than 8MB and saved as one of .jpg, .gif, .png, .bmp, .tif, .tiff or .pdf.

- Search for graphics or add new graphics by selecting ‘New’ at the top right of screen. This will open the ‘New graphics’ pop-up (see Figure 11.52) where at a minimum you need to provide:
 - ‘Photo date’
 - ‘Photographer’
 - ‘Copyright’
 - ‘Filepath’ – where the photo is located on your computer.
- To search for the location, click ‘Browse’. This will open a new pop-up allowing you to search the file manager for the file and its location. You can use this dialog to attach any photographs taken at the site of both landscape and portrait orientations preferably taken from outside the site looking in, with the sun behind the photographer. Any extra relevant graphics may also be added (e.g. threatened or otherwise significant species, site markers – if the replicate is intended to be revisited).

Figure 11.52 'New graphics' pop-up

3. When you are done click 'Save' at the top right of screen. The table on the 'Graphics' tab should populate accordingly with 'Review' and 'Remove' options available.
4. To add further graphics, repeat the above process.

11.3.7 Saving replicate data

As you will have been saving as you enter data, all your data entry will have been saved to the 'Flora surveys' database. However:

1. Navigate to one of the following tabs:
 - 'General'
 - 'Condition'
 - 'Land use'
 - 'Ground cover'.
2. Click 'Update' as a precaution. If you have missed any requisite fields, or incorrectly filled a field you will receive an appropriate error message in red text at the top of the page.
3. Correct any errors and complete the required fields and click 'Update' again. Once you are successful you will receive a data successfully updated pop-up.

12. Bulk data entry – systematic flora survey data

To facilitate the validation and import of sightings data, BioNet Atlas offers the functionality to submit records online via the 'Import spreadsheet' menu. Note the process to upload systematic survey data differs from that of species sightings data, in that systematic survey data first requires manual data entry of survey and site information into BioNet Atlas before the spreadsheet with details of sightings can be uploaded.

As such, the ability to submit bulk uploads of survey data also requires edit access to the Flora surveys module. Ability to upload this data is currently available to the users shown in Table 12.1.

Table 12.1 Access to the 'Species sightings' module by User Role

Func.	Public	Regist.	Sens. Spp. Data Lic.	Sens. Spp. Lic. Data + survey data edit rights	Govt.	OEH - General	OEH – TB Edit	OEH - Admin
Edit	N	N	N	Y	Y	Y	Y	Y

For an overview of the required steps and checklist to complete at each step refer to Figure 12.1.

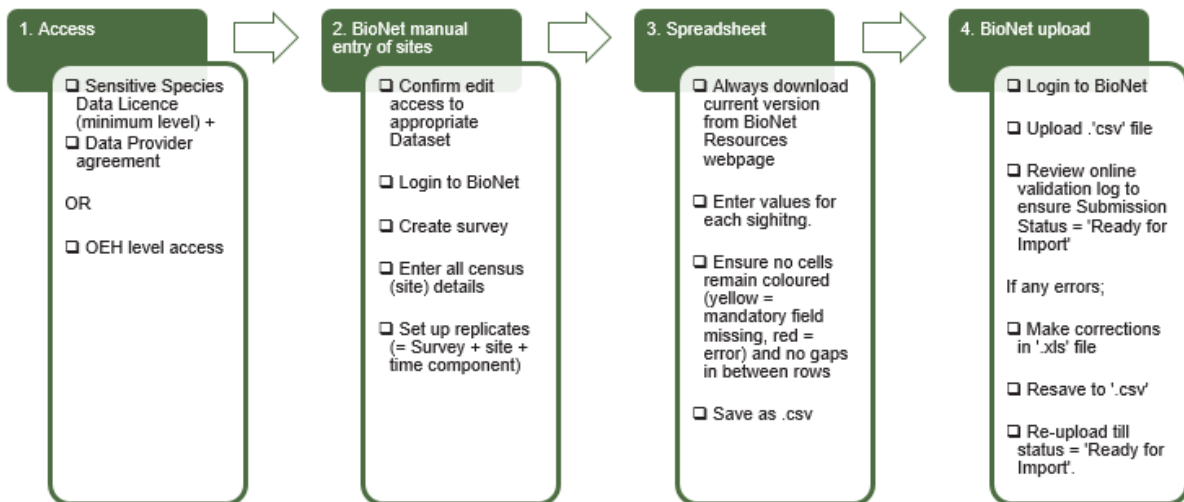


Figure 12.1 Summary workflow and checklist for upload of systematic flora survey data into BioNet

Is the bulk upload process suitable for my survey data?

There are some limitations around the bulk upload process of flora survey data and as such it won't always be suitable for your needs.

1. Number of species records per replicate

Because of the need to manually set up your survey details in BioNet Atlas before attempting to submit the survey spreadsheet, it will be most useful for replicates with large numbers of species records. For surveys where there are only a handful of records at each unique replicate, you may find it more time consuming to utilise the survey spreadsheet.

2. Limited fields available

The spreadsheet does not contain the full range of fields available in the survey modules (rather it contains the most commonly used fields). As such, it will not always be suitable if you have data for fields not contained in the spreadsheet.

12.1 Create ‘survey’, ‘site’ and ‘replicates’

1. 1. Login to BioNet Atlas and manually create your survey, site and replicate details. Refer to Section 11 Entering flora survey data for instructions.
2. 2. Note the ‘Site Number(s)’ you have created.

12.2 Enter species records into the Survey datasheet

1. Save a copy of the file ‘[VISSurveyDatasheet_6000.xls](#)’ to your local/share drive. Note that the file size will reduce once you are required to resave it in a different format (i.e. as a ‘.csv’ file).
2. Open ‘[VISSurveyDatasheet_600.xls](#)’. There are three worksheets:
 - ‘Sighting records’ – this is where all the sightings details are entered.
 - ‘Reference’ – this contains the codes and descriptions for each of the fields in the ‘Sighting records’ worksheet. The ‘Reference’ worksheet is needed to ensure validation (on entry into the excel file) of values in the ‘Sighting records’ worksheet. Details of each field and the input requirements are contained in Table 12.2.
 - ‘Info’ – contains brief abstract and contact details including the date the file was last updated.
3. Enter the details of your species into the ‘Sighting records’ worksheet. To assist, Table 12.2 summarises the different field types and behaviours, while Table 12.2 provides detailed descriptions and requirements for individual fields.

Customise your own spreadsheet

In the ‘Sighting Records’ worksheet, the system reads the data from Row 3 of the spreadsheet to recognise the field titles and match them up to the fields in BioNet Atlas. This means that you can tailor a spreadsheet based on fields that you most commonly use, by moving the columns around (and hiding those you don’t use) without compromising the submission process. Just don’t change the values currently populated in Row 3 or delete fields you don’t use.

4. Before referring to Table 12.2 for descriptions and requirements of individual fields, please review the following steps which outline the overall guidelines around data entry. Only a few fields in the ‘Sighting records’ worksheet are mandatory. These are highlighted in yellow. The first three mandatory fields are shown.

Table 12.2 Summary of the various field type and behaviours for cells in the flora survey datasheet

Field type	Behaviour	Example screenshot
Mandatory fields	<p>Only a few fields in the 'Sighting Records' worksheet are mandatory. These are highlighted in yellow; the three mandatory fields are shown here.</p> <p>Once data is entered into these fields in the correct format, the cells will automatically become white.</p>	
Predefined dropdown lists	<p>Some fields require a value to be selected from a pre-determined list. Clicking in the cell will display a dropdown arrow, which when clicked on, displays the full set of value options, such as illustrated for the field 'Type', shown here. You can either select the appropriate option from the dropdown list, or type in the value.</p> <p>Note that if you enter a value into a field with a dropdown menu that is not contained in the predefined list of values (e.g. typing the value Fauna into the 'Type' field), the following error message pop-up will display;</p> <p>Click either button and select the appropriate value from the dropdown list.</p>	

Field type	Behaviour	Example screenshot			
Specific formats	<p>Some cells do not have dropdowns, but still require values to be entered with a certain format. For example, the date field must be entered in the format dd/mm/yyyy and must be greater than 01/01/1770 and less than the date of data entry.</p> <p>Entering a value which does not match the requirements for that field, will highlight the cell red, as shown here.</p> <p>You will need to edit the values to the correct format before the cell will display as white.</p>				
Free text	Some cells allow free text, such as the 'Notes', 'Specimen Rego' and 'External Key fields', however there is a cap on the number of characters allowed. Exceeding the maximum allowed length will result in a truncation of data after import.				
Linked Mandatory fields	Some cells become mandatory after a value has been entered into a related field. For example, entering a value into the 'Specimen Rego' field will cause the 'Specimen location' field to highlight yellow (and vice versa). Note that this particular example will also cause the 'Source code' field to highlight red, prompting you to change the value to indicate where the specimen has been lodged (a public or private museum or herbarium). Or the 'Observation Type' field, which only highlights yellow when fauna is selected in the 'Type' field.				

Important advice around frequency of data submission

1. Choose how frequently you wish to submit data. While datasets have historically been collated and submitted on a yearly basis (to coincide with the SL renewal), please note that you can submit data as frequently as you wish. You may choose to enter your 'full' dataset as a single file (at the time of your SL renewal); or as multiple files over time as the data is collected. Just make sure you enter your Scientific licence number in the relevant field on the submission form whenever you submit a file. And please keep a record of file names and dates of submission, in order to notify Wildlife Licensing when your Scientific Licence is next due for renewal.

2. Only submit datasets once*. Please only submit new sightings once. This applies to both;

1. Records you have previously submitted. If, for example, you have decided to keep all of your records for the year in a single spreadsheet and you decide to submit records periodically throughout the year (at the end of each project, for example), please only submit the new records. Submitting the same records twice will be flagged as duplicates, but only after unnecessary effort by the BioNet team.
2. Records that someone else has collated for you under their Scientific Licence. The general rule here would be that the individual who has collected records pursuant to their Scientific Licence is responsible for collating and submitting the records themselves. If, for whatever reason, you have agreed to submit the records on their behalf (such as in the case that you have sub-contracted them to do the survey for you), then if the agreement between both of you is that you shall submit the records, please be clear to ensure that only one of you submits the records and also clearly advise Wildlife Licensing of this at the time of the Licence renewal.

*Note that this does not apply to datasets you submit online that fail validation due to missing/erroneous values. Datasets may need to be submitted several times until they pass validations

3. Advise the BioNet team ASAP regarding any valid submissions that should not be imported. If, for example, you have successfully submitted a file online (i.e. Status = 'Ready for import') but you later realise that it is the wrong dataset you meant to upload (e.g. duplicate, or contains missing details etc), then please email the [BioNet team](#) asap with the file name and date of submission, so that we can flag the file as 'not for import'. Any datasets with a Status of 'Invalid' will not be reviewed or imported by the BioNet team, so there is no need to advise the [BioNet team](#) of such datasets.

TIPS and Troubleshooting when entering values into the BioNet SurveyDatsheet.xls

When entering sighting details, always enter the first record into Row 4 and do not skip any rows or enter values unrelated to sightings into other cells elsewhere in the spreadsheet.

If add value with a single apostrophe in the Notes field, the apostrophe will be exported and stored as a question mark in the database. If practical, please refrain from using apostrophe's in these fields.

Always enter new datasets into the '.xls' file, to ensure appropriate validation (i.e. not the '.csv' file). Entering new records into the '.csv' file will compromise the inbuilt validations. Editing the '.csv' file converts the species code field to numeric, thereby removing the ability to store leading zeros resulting in many species codes being submitted in error.

5. Only after there are no red or yellow cells, is the file ready for submission to import. Table 12.3 contains descriptions for each of the fields in the Flora surveys spreadsheet, and the required format for entry. Mandatory fields are marked with an asterisk.

Table 12.3 Flora survey import spreadsheet fields

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
Entry order	EntryOrder	If you wish to assign an order in which the records will be displayed in the VIS front-end you may enter numbers here. E.g. if you enter two records <i>Eucalyptus grandis</i> and <i>Acacia longifolia</i> in that order but wish for the <i>A. longifolia</i> to appear in the table at the Species tab first then you would assign <i>A. longifolia</i> a 1 in the Entry order column and the <i>E. grandis</i> a 2.	Integer	No
Site Number*	SiteNo	Unique code for a location, which has been assigned to an existing location in BioNet Atlas.	As exists in the BioNet Atlas (i.e. must have previously been manually created in	Yes

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
			the BioNet Atlas)	
First Date*	DateFirst	The date the species was sighted.	dd/mm/yyyy hh:mm:ss >/= 01/01/1770	Yes. Time is required where it has been specified in the Census start and end fields.
Last Date	DateLast	For species recorded on a specific day, you can leave this field blank (it will be automatically populated with the value from the First Date field). For species recorded over a period of time (e.g. during a survey conducted over a week, or where an approximate date was given), enter the Last Date .	dd/mm/yyyy hh:mm:ss. Later than or equal to First Date, and </= date of data submission.	No.
Sub-plot	SubPlotID	The subplot number (if applicable) where a nested or contiguous plot method was used.		Y
Type*	Type	Distinguishes fauna (FA) from flora (FL) species. Note that fungi are included under FL.	Select from dropdown list.	Yes
Species Code	SpeciesCode	A unique code attributed to an individual species, genus or family. Codes can be obtained from the Census of Australian Vertebrate Species (CAVS) and Census of Australian Plant Species (CAPS) library fields. Please note that entry of codes is not required, as this can be calculated by the BioNet team, so long as the species scientific and/or common name is provided correctly.	Unique letter/number (see CAVS and CAPS lists).	No
Common Name	CommonName	The common name by which the species is known.	Free text, up to 80 characters.	Mandatory for fauna, where scientific name not supplied.
Scientific Name*	ScientificName	The scientific name by which the species is known.	Free text, up to 80 characters.	Mandatory for flora.
Cover score	CoverID	Note that the scoring system for this field is defined at the Survey level.		No. If Percent Cover populated, this field should be Null (but is

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
				not a requirement)
Abundance score	AbundTypeID	for flora only Abundance score. Note the scoring methodology will have been defined at the survey level.		No
Stratum	StrataType	for flora only 'Stratum (plural Strata) is a major horizontal structural division of a stand of vegetation' as per Sivertsen, D 2009 <i>Native Vegetation Interim Type Standard</i> , Department of Environment, Climate Change and Water NSW, Sydney. See reference worksheet for values and definitions.	Select from dropdown list	No
Growth form	GrowthHabits	Whether the plant is a tree, herb, fern etc.	Select from dropdown list.	No
Height min	HeightMin	The height (in metres) of the shortest plant.	Number, up to two decimal places. Must be less than the Upper height value.	No
Height max	HeightMax	The height (in metres) of the tallest plant.	Number, up to two decimal places. Must be greater than the Lower height value.	No
% Cover actual				
Abund actual				
Estimate code	EstimateCode	The accuracy of the 'Count' (e.g. exact, estimate, more than, less than).	Select from dropdown list.	No
Source	SourceCode	Source distinguishes standard sightings from those held at public or private collections. The default value for this field is set to 'Sighting only', which will be automatically populated once a value is entered into the 'Type' field. You only need to change the value if a specimen was taken (i.e. either Specimen with	Auto-populated once 'Type' is selected. To edit, select from dropdown list.	Yes

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
		public museum or herbarium or Specimen with other collection), or if there is some uncertainty around the identification, particularly in the case of Anabat records (i.e. Sighting – probable ID or Sighting – possible ID). See reference worksheet for values and definitions.		
Specimen Rego	SpecimenRego	The unique registration number assigned by the Herbarium/Museum where the specimen is lodged. Note that this is not the Inquiry number. If the specimen number is not available at the time of submitting your record to the BioNet Atlas, write 'not provided' and you can forward the Registration after you receive it.	Free text, up to 40 characters.	No (only mandatory if value supplied in field 'Specimen Location')
Specimen Location**	SpecimenLocation	If a specimen has been lodged at an herbarium or museum select the location .	Select code from dropdown list.	No (only mandatory if value supplied in field 'Specimen Rego')
External Key	ExternalKey	Observer's own unique reference number.	Free text, up to 30 characters.	No
Notes	Notes	Enter any additional details regarding the species that could not be entered into any of the other existing (species related) fields.	Free text, up to 500 characters.	No

* Indicates mandatory field

** After entering specimen details, please update the Source field by selecting the appropriate value, either;

- 1 - Specimen with Public Museum or Herbarium, or
- 2 - Specimen with Other Collection

12.3 Submit your file for import

1. Once all sighting details have been entered you are ready to submit your file for import. You will first need to save your file in the correct format (a comma separated file; '.csv').
 - In Excel, make sure the 'Sighting Records' worksheet is the worksheet in your current view.
 - Select the 'Save As' option from the 'File' dropdown menu.
2. A 'Save As' pop-up will appear.
3. In the 'Save As' pop-up, select the file type '.csv' from the 'Save as type' dropdown menu. Note that this will only save the worksheet in your view, the 'Sighting records' worksheet (so make sure this is your current worksheet).
4. Change the filename.
5. Click 'Save'. A pop-up will display advising you that '.csv' files can only save the active sheet.

6. Click 'OK' (as you no longer need the Reference worksheet). A second pop-up will now display advising you that the file may contain features that are not compatible with '.csv'.
7. Click 'Yes'. The pop-up closes, and the file has been saved. Note that because the 'Reference' worksheet is not stored in your '.csv' file, the file size will be considerably smaller.
8. Your file is now ready to be uploaded via BioNet Atlas for submission.
9. Login to the BioNet Atlas using your secure login.
10. In the heading banner, note the menu heading titled 'Import spreadsheet'.
11. Move your mouse over the 'Import spreadsheet' menu to display the selection 'Submit sightings'. A 'Submit sightings' page will display (see Figure 12.2).

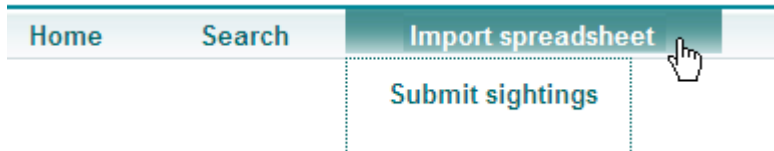
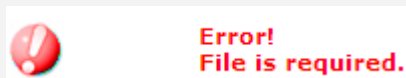


Figure 12.2 Submit sightings option under 'Import spreadsheet'

12. Five fields are available to populate:
 - Dataset
 - Supplied by
 - Scientific licence number
 - Import type
 - File.

WARNING If you are using **Firefox**, using the **enter** key after typing in text (instead of clicking on the **Search** key) will cause the application to submit your file for Import before you are able to enter values into the other fields. The following error message will return:



Please ensure you click on the 'Search' button.

12.3.1 Dataset

You do not need to enter this, as the dataset has already been defined when the survey was created. Skip to the next step.

12.3.2 Supplied by

The supplied by field allows you to identify the name of the 'owner' of the dataset. In most cases this will be you (i.e. the observer of the records). Note that if you are submitting a file on behalf of someone else, please select their name.

1. In the 'Supplied by' field, click on the 'Search' button. A 'Search for Observer' pop-up will display.
2. Type in all (or part) of your 'Surname' and/or 'Given name(s)'.
3. Click the 'Search' button. All names that match your search criteria will display (see Figure 12.3). Note that the names available for you to search on, are restricted based upon your login details (i.e. while OEH staff will have access to the complete list of

contact names, users external to OEH will only have access to a subset of contact names relevant to their organisation).

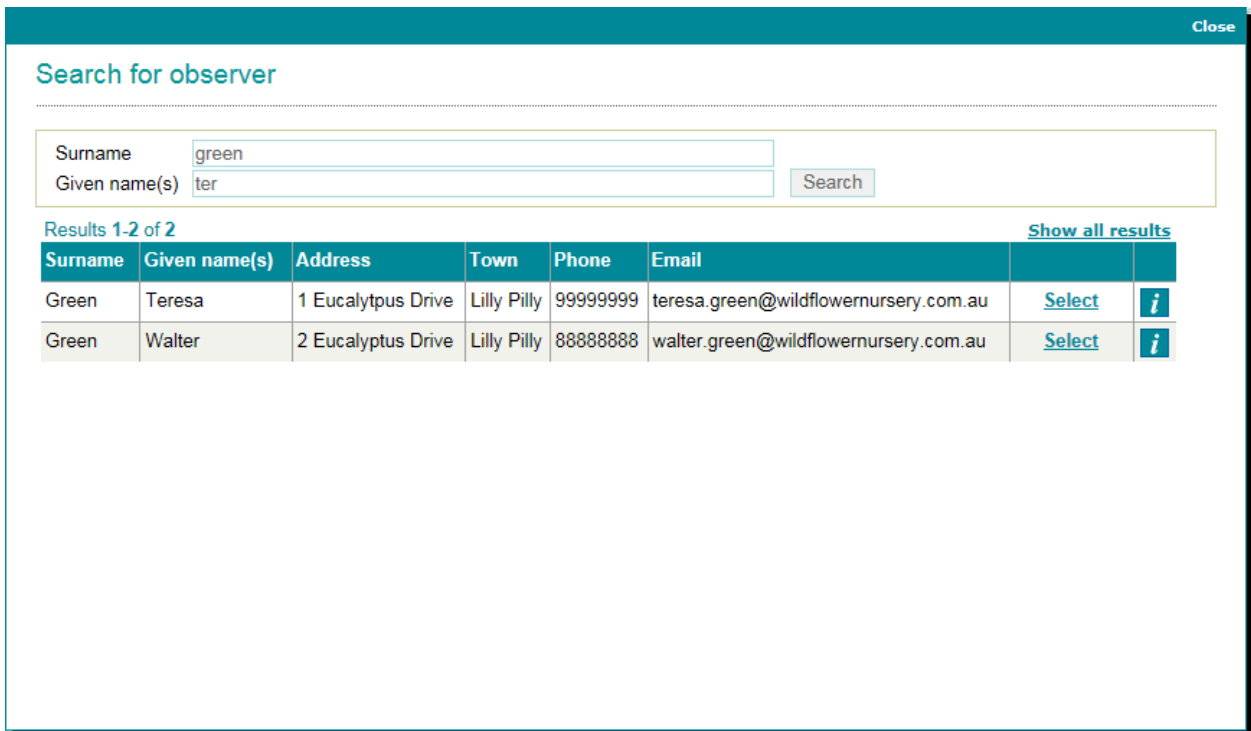


Figure 12.3 Observer search results box

4. If there are multiple names that match your search criteria, you can click on 'i'. A pop-up displays with additional contact details for the observer.
5. Click anywhere outside of the pop-up to close it.
6. To choose your details, click on 'Select'. The 'Search for observer' pop-up closes, and your selected contact details are displayed in the 'Supplied by' field.

12.3.3 Scientific licence number

If the dataset (or part thereof) is being supplied pursuant to a Scientific Licence, the licence number(s) should be recorded here.

1. Enter the licence number(s) in the 'Scientific licence number' field (this is a free text field, allowing up to 50 characters).
2. Separate multiple licence numbers with a space, comma or semicolon.

Note that Scientific Licensing use the data from this field when renewing licenses to ensure data has been entered before issuing a new licence.

12.3.4 Import type

1. Select 'Systematic Survey Sighting Import'. Note that the Dataset field will then clear and the name and search function will grey out (see Figure 12.4).

The screenshot shows two main sections: 'Submission settings' and 'File upload'.
 In the 'Submission settings' section, there are four rows:
 1. 'Dataset' with a text input field and a greyed-out 'Search' button.
 2. 'Supplied by' with a text input field, a 'New' button, and a greyed-out 'Search' button.
 3. 'Scientific licence number' with a text input field.
 4. 'Import Type' with two radio buttons: 'Standard Sighting Import' (selected) and 'Systematic Survey Sighting Import'.
 In the 'File upload' section, there is a 'File' label with a help icon, a text input field, and a 'Browse...' button.

Figure 12.4 Import type option: 'Search' is greyed out

12.3.5 File

1. To select your file for upload, look at the 'File upload' box. Note the help button '?', which reminds you that only '.csv' files can be uploaded if clicked on.
2. Click on 'Browse'. A 'Choose file to upload' pop-up displays.
3. Use the 'Look in' field to navigate to the file, held on your local or hard drive. Unfortunately, you **cannot** use the 'Files of type' menu to filter on only '.csv' files.
4. Once your file has been selected, click on 'Close'. The file pathway and filename will be listed in the 'File' field and the field will automatically highlight green.
5. Alternatively, you can type the file name and pathway directly into the 'File' field.
6. You may have noted that once the cell highlights green, the 'Submit' button activates.
7. Click on the 'Submit' button.
8. A 'Data processing' pop-up displays. While processing, your dataset is undergoing preliminary validations which include checking that mandatory fields are filled in and values are entered in the correct format.

The system reads the Site no., and First Date information to determine the Survey and census that the data should be linked to (this validation happens after you submit the file). For this reason, technique type is not compulsory as it should be easily pulled from the census attributes using this criteria.

If the above details are insufficient (i.e. there is more than one existing technique type for the site no and date range you have entered) it will read the details from the Technique type column to determine the census to link the data to. This will return an error after submission, prompting you to specify the technique type and re-submit.

9. Once the database has validated the fields contained in your file, a 'Sighting submission' pop-up will display with details of your submission. You will need to review both the 'Status' and 'Log' values to determine how next to proceed.
10. You will receive one of two Status values:
 - Invalid
 - Ready for Import.

Invalid

If the 'Status type' displays as 'Invalid', this indicates that your file contains erroneous or missing data.

The log will identify which Row's contain fields that require review and edits, with a brief description of what edits are required, as shown in the example above. Note that the Row number here refers to the row number in your excel file.

Note that only the first 100 errors will display in the log, if there are more than 100 error messages, or you wish to review your messages at a later date, you will need to save the log to view details.

1. Click on the 'Save log' button. You will need to fix these errors in the **Excel** file. Editing the excel file ensures that the formulae and reference worksheet validates any new values added.
2. Make any edits to the Excel file.
3. Resave the file as a '.csv' file.
4. In BioNet Atlas, re-submit the '.csv' file for upload.
5. Repeat this process as necessary until the 'Status' returns as 'Ready for Import'.

Ready for Import

If the Status type displays as 'Ready for Import', this means that your submission has passed all validations (see Figure 12.5).

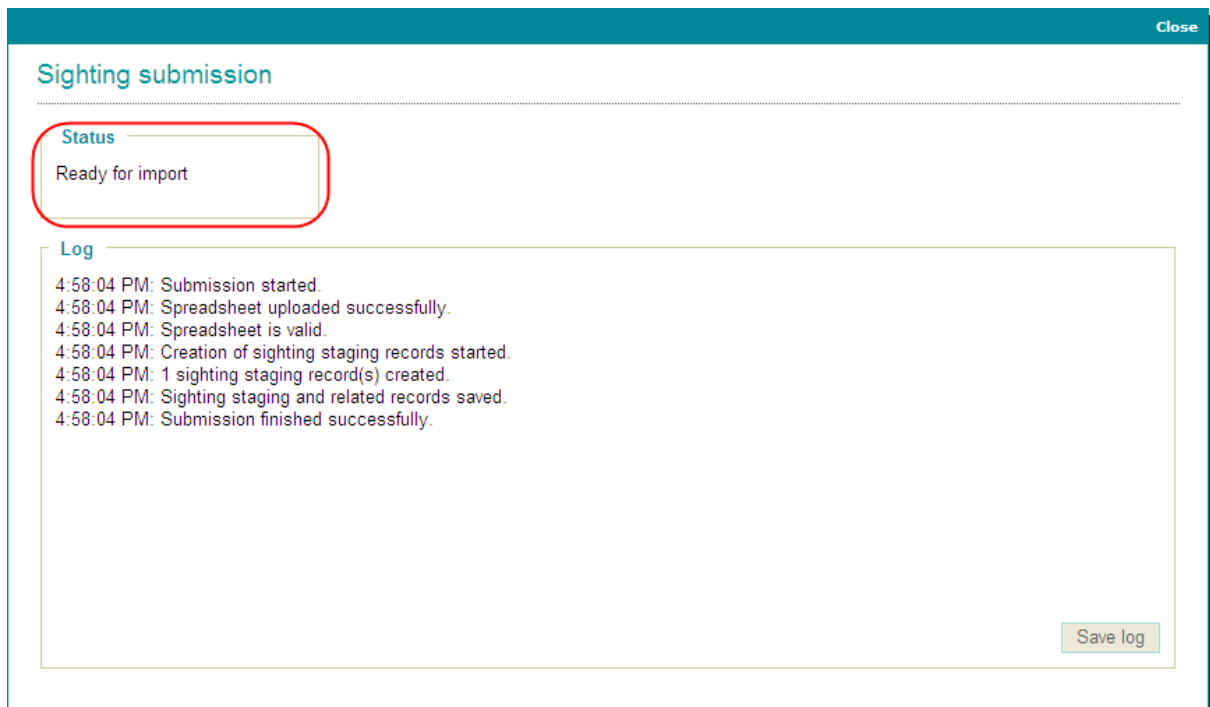


Figure 12.5 Ready for import

Note that you do not need to validate any locations, as the locations are already stored in the BioNet Atlas.

1. Your file has now been successfully submitted and is awaiting review and import by BioNet team staff.
2. Close the 'Sighting submission' pop-up.

Note: any files where the Status is listed as **Invalid**, will be ignored by the BioNet team.

12.4 Survey import troubleshooting

You may receive a Status of 'Invalid', without any fields specified in the log (see Figure 12.6).

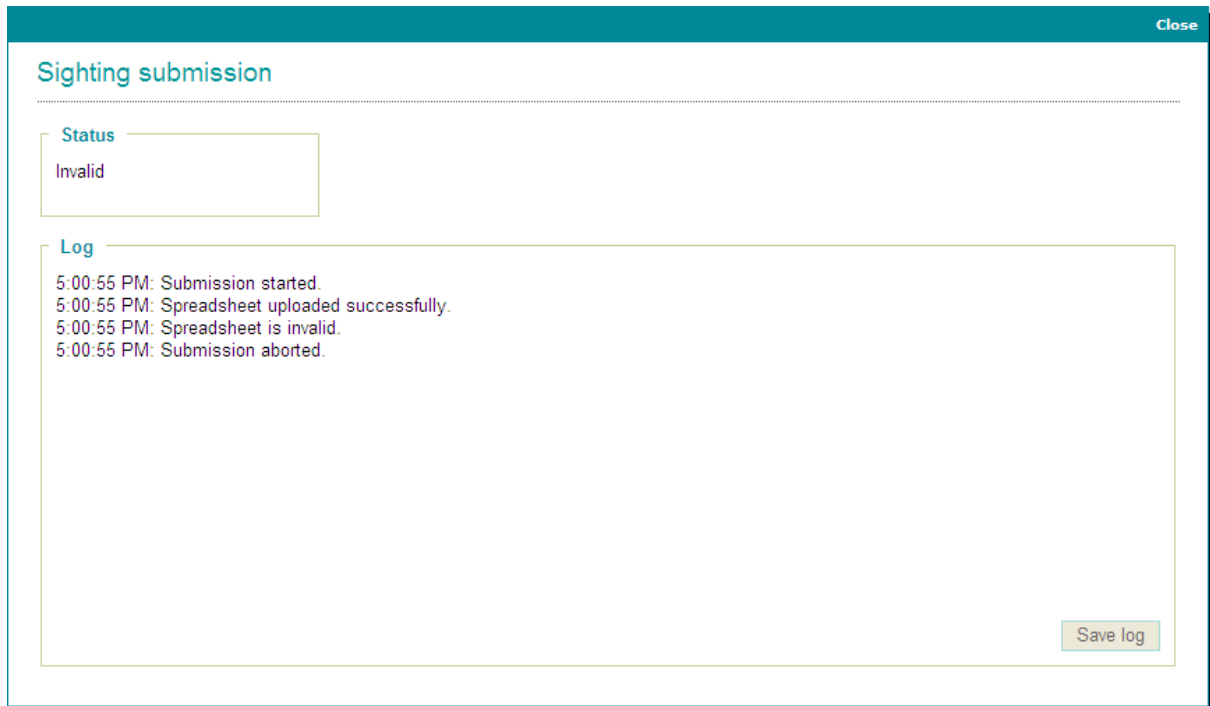


Figure 12.6 'Invalid' when trying to submit a sighting

The most common reason for this error is that you have entered a value into another row that is spaced at least one row after your last record. For example, if you have entered a single record into the spreadsheet (in Row 4), left Row 5 blank and then entered a random value by mistake into another Row (either in Row 6 or after) such as a letter or space.

This causes a problem because the system reads the Rows sequentially and can't process the validations in Row 6 (or later) where the rogue value was entered.

To locate the source of the error (and confirm if this is the issue):

1. Go to the file directory and locate the '.csv' file you attempted to upload.
2. Right mouse click on the file and select to open with Notepad (see Figure 12.7).

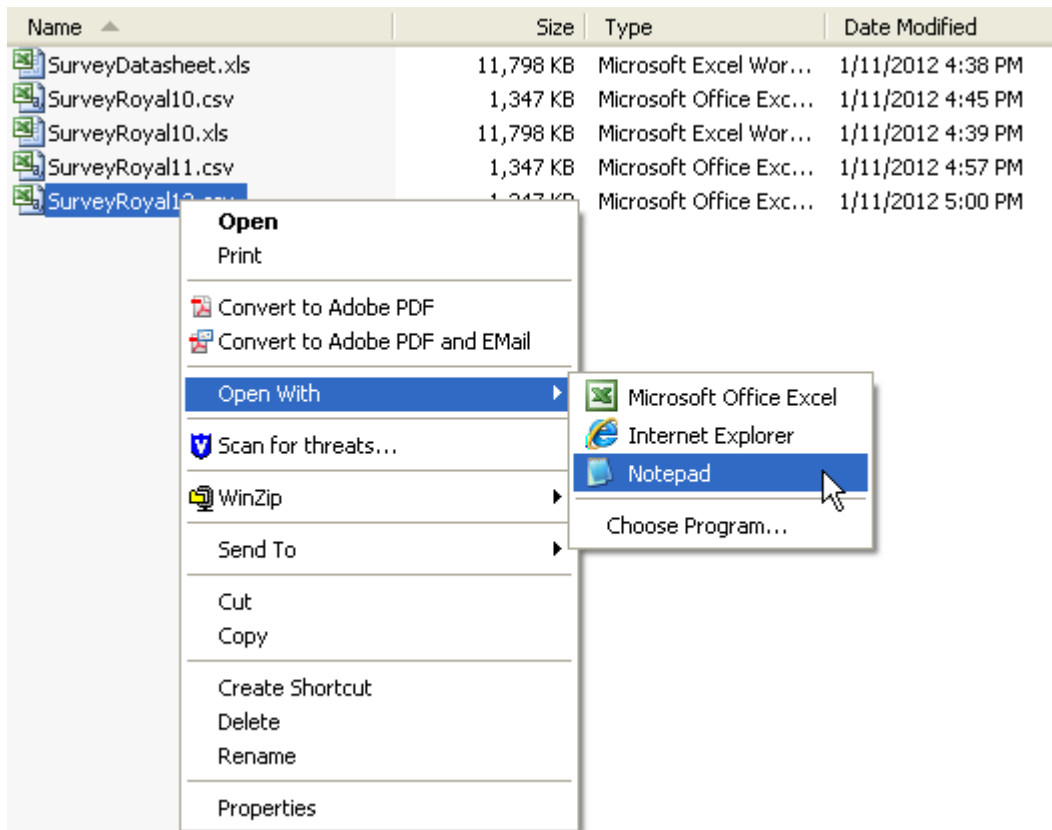


Figure 12.7 Troubleshooting invalid spreadsheets

3. Review the Notepad file for any incorrect values. It is advisable to scan the file beyond your data entry rows as in the conversion from '.xls' to '.csv' random data may be inserted into your file. Values (blank or otherwise), are separated by commas.

12.5 How are records imported into BioNet Atlas?

Once you have received a **'Status'** of **'Ready for Import'** in the Sighting Submission pop-up, the file is stored in a waiting area of the database, meaning they have not yet been assigned sighting keys and will therefore not appear in any searches you undertake.

The BioNet Team are the only OEH staff that can finish the import process to incorporate the records into the BioNet Atlas. Note that only those submissions flagged as **'Ready for Import'** will be reviewed and imported by the BioNet team. All other submissions that have returned as **'Invalid'** will be ignored. Refer to Section 28 Bulk imports for workflow for file import.

For the file to be imported, this may involve further validation; i.e. creating new species details (where necessary) and review of potential duplicates, at which point BioNet staff may contact you if further clarifications are required.

The BioNet team will work through imports by date of submission. If there is an urgency to have your file imported, please just let the BioNet staff know, otherwise it will be imported in time.

13. Export survey data – Data Analysis Module (DAM)

The Data Analysis Module (DAM) is a sub-module within the Flora and Fauna surveys modules. DAM allows authorised users to perform different data reviews, filter and export activities, as well as importing analysis results for storage inside the Flora and Fauna Survey modules.

View and edit functions in this part of the Flora and Fauna surveys module are available to users as outlined in Table 13.1.

Table 13.1 Access to the DAM section of the Flora and Fauna Surveys modules by User Role

Func	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	N	N	Y	Y	Y	Y	Y	Y
Edit	N	N	N	Y	Y	Y	Y	Y

DAM is built around the concept of ‘analysis sets’, which are lists of censuses and species. Analysis sets are developed by the Flora and Fauna surveys module users to select existing (and future) surveys for application in specific projects. Users can access their own analysis sets at a later date to add more sites as new survey data becomes available, and access analysis sets developed by others (subject to access permissions).

Figure 13.1 provides an overview of the steps required to create an analysis set.

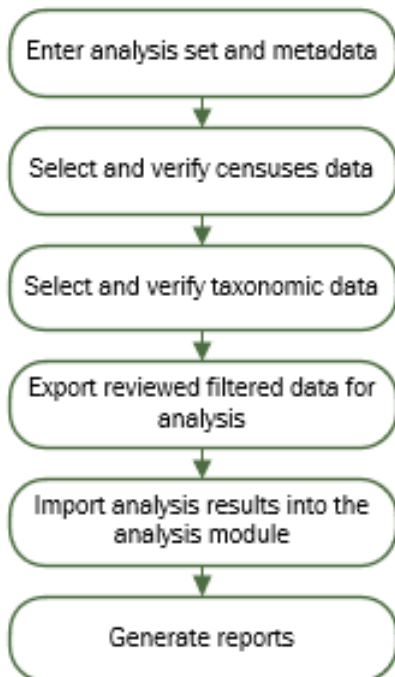


Figure 13.1 Steps required to create an analysis set

DAM uses a wizard-based approach based on a series of sequential steps. To access the Data analysis module the user needs to select the ‘Data analysis’ option under either the Flora or Fauna surveys menus (see Figure 13.2).

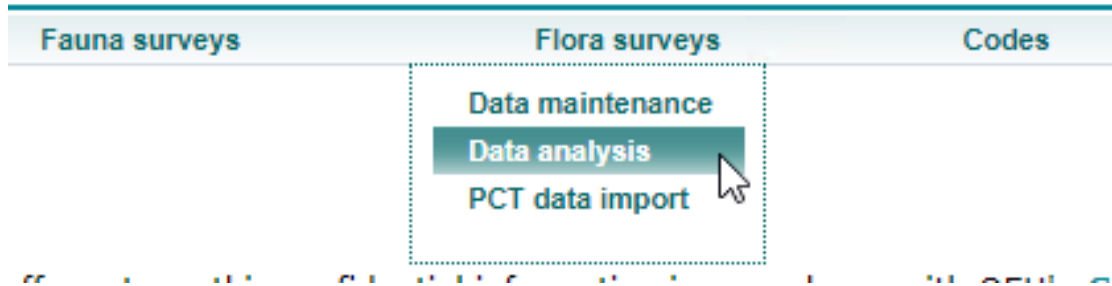


Figure 13.2 ‘Data analysis option’ under Flora surveys

This will direct the user to the DAM homepage, which is a search screen.

13.1 Creating analysis sets

After clicking on the ‘Data analysis’ link under Flora or Fauna surveys, you will see a ‘New analysis set’ screen.

Steps are sequentially numbered, with each of the first five building on the one before it.

13.1.1 Step 1: Analysis set properties

Step 1 of the ‘New analysis set’ page is used to gather the metadata used to identify and secure the analysis set (explained below). Note that all seven steps are shown at the top of the page, with the current step highlighted.

There are three compulsory fields that need to be entered on this form:

- ‘Analysis set name’: Your nominated name for the analysis set.
- ‘Dataset id’: The dataset to which the analysis set will be saved. The dataset will define the access privileges of other users in relation to the analysis set.
- ‘Analysis set type’: As the analysis set is a shared tool between the ‘Flora surveys’ module and the ‘Fauna surveys’ module. You will need to select either Flora or Fauna from the dropdown provided. Flora means the tool will only interrogate surveys saved to the ‘Flora surveys’ module. Fauna means that the tool will only interrogate surveys saved to the ‘Fauna surveys’ module.

The ‘Description’ field allows you to add a description which may aid you in any future reviews of the analysis set that you do. As described earlier, users conducting a search at the ‘Data analysis’ home page have the ability to see all analysis sets saved in the BioNet Atlas database. As such it is strongly recommended that you add a description as an added security measure.

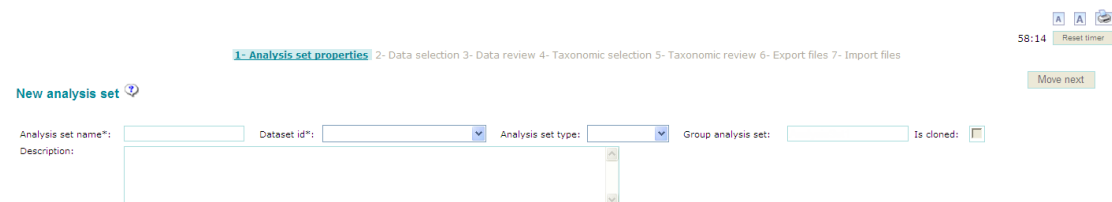


Figure 13.3 Analysis set properties for a new analysis set

The wizard-based process starts by selecting the analysis set type which can be one of the following:

- ‘Standalone analysis set’. This type should be used to create an analysis set which has no relation with any existing analysis set. A standalone analysis set can also be used as a root analysis set to clone from, or group by, as explained in the sections below. You will need to fill in all details at the ‘New analysis set’ page except for ‘Parent analysis set’ and ‘Is cloned’.
- ‘Group by parent analysis set’. This analysis set type can be used when creating a sub-analysis set. This technique is useful if you want to divide the analysis process into smaller analysis sets and group them all using one parent analysis set. Grouped analysis sets can exist in one or more security datasets; however, you must have, at least, read access to the security dataset assigned to the parent analysis set, to be able to use it as a parent analysis set. The flow diagram below shows how an analysis set grouping is implemented. A sub-analysis set is initiated by selecting ‘Create sub-analysis set’ for a saved analysis set. Note that ‘Parent analysis set’ is automatically populated with the value of the saved analysis set record if ‘Create sub-analysis set’ was used.
- ‘Clone existing analysis set’. This type should be used if you want to start a new analysis set from an existing analysis set. The new analysis set will clone all the data from the source analysis set except for exported/generated files and imported analysis results. You must have at least read access to the source analysis set to be able to clone it. You may choose to place the new analysis set in the same security dataset as the source (if write access on this dataset is granted to you) or associate it with another security dataset.

‘Cloned analysis set’ type is also considered group analysis set type because the source analysis set will automatically be used as a parent analysis set to the newly created analysis set. The new analysis set will be cloned from the ‘Parent analysis set’ when the checkbox ‘Is cloned’ is selected.

13.1.2 Step 2: Data selection

Figure 13.4 ‘Filters’ tab at ‘Step 2 – Data selection’

This is a mandatory step to batch select the surveys and censuses for inclusion in the analysis set. Note that both Step 1 and Step 2 are now displayed as active at the top of the page. You may return to the previous step by simply selecting it; however, by doing so, you will lose any data entered into the form at Step 2.

1. Use this form to provide all the necessary parameters needed to generate the initial censuses list. Two tabs are available:
 - ‘Filters’: This tab opens by default and provides a number of survey, census and species specific fields which you may need to populate in order to create your analysis set. The criteria entered here define the subset of censuses from the Flora

- and Fauna surveys modules which you wish to analyse. See Filters tab at Step 2 – Data selection for further details.
- ‘Survey & site codes’: If you have already created a list of censuses defined by survey and site code and you wish to analyse it then you can use this tab to import a ‘.csv’ file. The file should contain two columns – ‘Survey name’ and ‘Site number’. Import button activates a pop-up window where you can navigate to the file location. Censuses identified by the survey site combinations will be added to the analysis set. See Survey & site codes tab at Step 2 – Data selection for further details.
2. In both instances, click the ‘Generate census list’ button to generate a census list based on the criteria you have entered.

As you can apply two further filters to your analysis set beyond Step 2 any filters applied here (Step 2) will be referred to as ‘Data selection filters’.

Filters tab at Step 2 – Data selection

The fields presented allow you to restrict your analysis set to censuses within the BioNet Atlas database which satisfy your primary filter criteria.

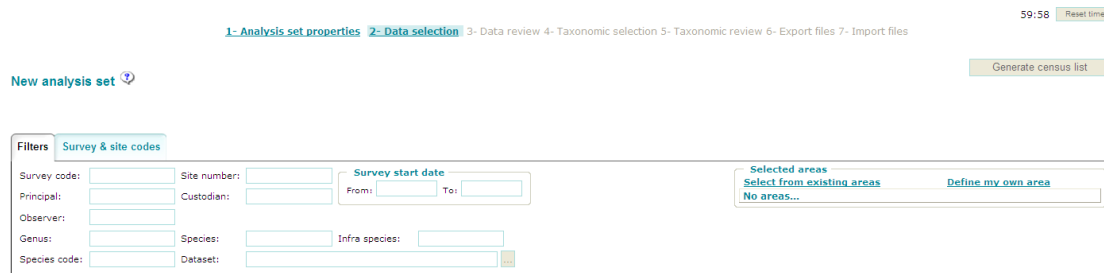


Figure 13.5 Filters tab at Step 2 – Data selection

The text-based fields contained on this form are all exact searches. If you are unsure of the precise term for any field, then please use the % **wildcard** to ensure you capture the relevant data.

Step 3 enables you to apply further filters (termed ‘Data review filters’ in this manual), so do not be concerned if this means that you capture unnecessary data. You can omit it later in the DAM.

Table 13.2 gives details about the fields available in the ‘Filters’ tab.

Table 13.2 Data selection filters available in the ‘Filters’ tab of Step 2: Data selection of the DAM.

Field	Description
Survey code	The Survey name. You will only be able to filter by one survey name.
Site number	The Site number. You will only be able to filter by one site number.
Principal	The principal of a survey (i.e. the project manager). You will only be able to filter by one principal.
Custodian	The custodian of the dataset to which a survey is saved. You will only be able to filter by one custodian. This may return more than one survey. e.g. ‘Office of Environment and Heritage’.

Field	Description
Survey start date from	This relates to the start dates of censuses within a survey.
Survey start date to	This relates to the end dates of censuses within a survey.
Observer	An observer is an individual linked to a species record. This field enables you to search on an individual observer.
Genus	The genus of a species.
Species	The species epithet of a species.
Infra species	This field is used for various taxonomic epithets below the species level e.g. subspecies epithet, variety epithet, forma epithet
Species code	Each species in the database is assigned a unique numeric code. Coding lists and nomenclature may be found in the Census of Australian Vertebrate Species taxa (www.environment.nsw.gov.au/resources/wildlifelicences/CAVS.xls [xls, 1.18 MB]) or Census of Australian Plant Species taxa (www.environment.nsw.gov.au/resources/wildlifelicences/CAPS.xls [xls, 3.85 MB]).
Dataset	The security dataset to which the surveys you are interested in are saved to. Information on selecting a dataset follow this table.
Select from existing areas	Allows you to filter sites by predefined layers (e.g. LGA, mapsheet). Filtering via this method excludes non-site-based censuses e.g. Harp trapping off-site, Predator scats, Opportunistic off-site.
Define my own area	Allows you to filter sites by your own area. Area is restricted to a grid. Filtering via this method excludes non-site-based censuses e.g. Harp trapping off-site, Predator scats, Opportunistic off-site.

1. To select a dataset, click on the 'X' symbol to the right of Dataset. A pop-up will appear (see Figure 13.6).

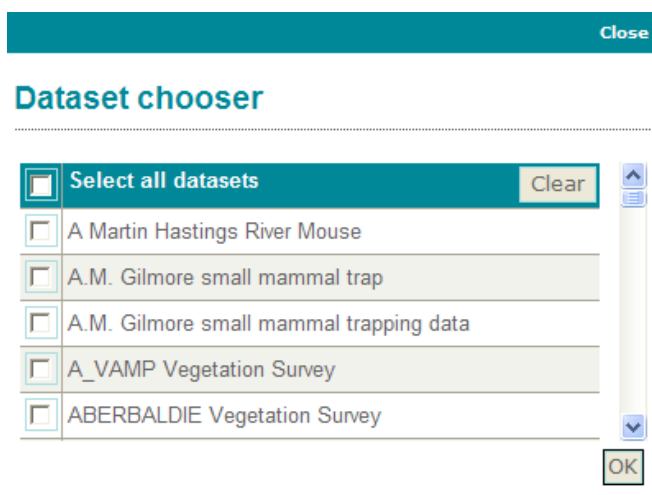


Figure 13.6 Dataset chooser pop-up

2. This list shows all datasets for which you have, at least, read access. To select a dataset, click the checkbox alongside the corresponding dataset you wish to analyse.
3. If you wish to analyse all datasets, then click in the Select all datasets checkbox at the top of the pop-up.
4. If you make an error, click 'Clear'.

5. You can add multiple datasets by clicking in multiple checkboxes.

Analysis sets may also be filtered on the basis of geographic location. However, if you create an analysis set via this method please be aware that you **will exclude any censuses that are not linked to site data**. This list includes (but may not be limited to):

- Harp trapping off-site
- Predator scat
- Opportunistic off-site

6. Spatial restrictions are applied in addition to the textual restrictions specified earlier in this section. There are two spatial search options available:
- **Select from existing areas:** a pop-up provides a variety of spatial layers, such as IBRA Regions boundaries, which allow you to confine the analysis set to the boundary (i.e. no buffer applied) of a predefined area.
 - **Define my own area:** a map of NSW appears, allowing you to define your own area of interest by either drawing a rectangle on the map or by manually entering geographic coordinates. If you enter coordinates manually, 'Show extent' will display the area on the map.
7. Once you have defined your area of interest, you need to select 'Use extent' to apply your coordinates as a filter.
8. The Name field allows you to assign a name to your area, so that you can identify it in the form at Step 2 (see Figure 13.7).

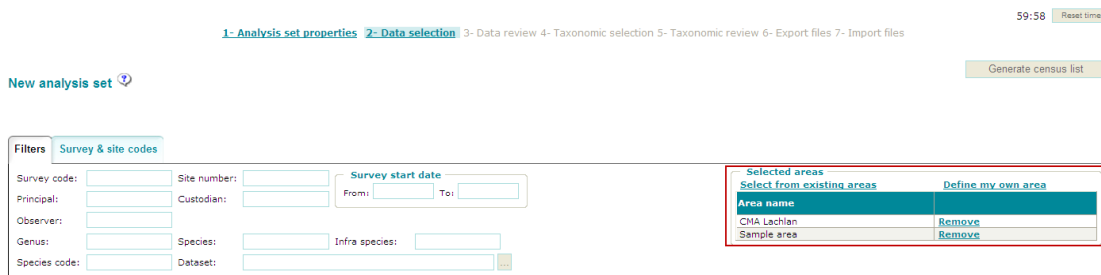


Figure 13.7 Selected area identification box

Survey & sites codes tab at Step 2: Data selection



Figure 13.8 'Survey & site codes' tab

As mentioned earlier this tab allows you to import a previously determined list of surveys and sites for analysis. The import file must be saved as a 'csv' file and have two columns titled 'Survey name' and 'Site number'.

Note that when you first navigate to this tab the 'Generate census list' button will become inactive. You will need to import relevant data in order to activate this button.

Generating a census list at Step 2: Data selection

In either the 'Filters' tab, or the 'Survey & site codes' tab, once you are satisfied with the data selection filters you have applied either through manual entry, or import:

1. Click 'Generate census list'.
2. At Step 3: Data review. Here you will be presented with a list of site-based censuses that satisfy your analysis set's data selection filters. Notice also that the page title will alter from 'New analysis set' to 'Analysis set: [Your analysis set's name]'. This indicates that your analysis set has been successfully saved to the BioNet Atlas database. If you were to search on your analysis set its status would be 'Census List Created'. Any site-linked censuses that are part of a survey, or site, that match your data selection filters will be included in the generated list. This means any survey can have one or more censuses in the analysis set. Likewise, a site may appear more than once in the analysis set, due to multiple censuses being conducted at that site.
3. If, at any point after generating your initial census list you wish to alter the data selection filters you can do so by selecting 2-Data selection and changing the applied filters. A new button appears – 'Re-generate census list'. If you click this a warning message appears.
4. 'OK' returns you to Step 3: Data review. Your new data selection filters will be applied.
5. 'Cancel' leaves you at Step 2: Data selection. Your new data selection filters will not be applied, and your original census list will be retained.

As mentioned earlier, each step in the DAM builds on earlier ones. As such your census list at Step 3: Data review provides the baseline for the initial taxonomic list generation, so if you have reset your filters in Step 2 – Data selection after having previously progressed beyond the 'Census List Created' status (i.e. you successfully progressed to Step 4 – Taxonomic selection), the DAM will automatically reset the analysis set data and revert the analysis set's status to 'Census List Created'.

The metadata provided in Step 1 – Analysis set properties will remain unchanged.

For the examples that follow we will use an analysis set that has been constructed using only one primary filter criterion: Survey name = ROYALBS.

This will result in an analysis set that comprises all census data from the RoyalBS survey.

13.1.3 Step 3: Data review

This step is used to review the site-based census list generated from the filter(s) applied at Step 2: Data selection. You have the ability to add further columns to the table presented and apply additional filters to the censuses in your analysis set.

At this step, any censuses that are **not** linked to sites will **not** be returned in the list. Non- site-based censuses include:

- Harp trapping off-site
- Predator scat
- Opportunistic records off-site.

Species data for any censuses that use these census types, and which satisfy your filter criteria at Step 1 and 2 of the DAM, will be included at Steps 4, 5 and 6 of the DAM.

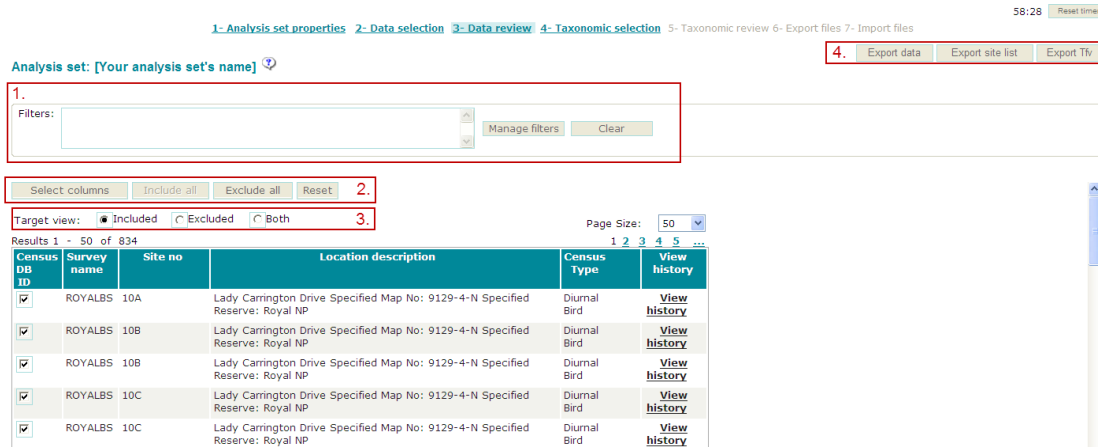


Figure 13.9 Results for taxonomic selection

If you do not wish to apply any data review filters you can progress straight to the taxonomic review by navigating to Step 4: Taxonomic selection.

The page at Step 3: Data review is quite complex so will be split into four sections for easier interpretation:

- **Data review filters:** allows you to incorporate data review filters on the censuses returned in your analysis set.
- **Managing your census list:** Alters the columns and rows displayed in the table. Rows are altered by the exclusion of censuses from the analysis set.
- **Target view:** Alters the census list displayed in the table.
- **Export functions:** These buttons allow you to export data from censuses which satisfy your analysis set criteria. There are three forms of export:
 - Export data: Exports the raw data displayed in the table.
 - Export site list: Exports site coordinate data for input into a spatial application.
 - Export tfv: This is relevant only to users who are analysing vegetation survey data and wish to import the data into an historic MS Access version of the VIS (called YETI).

Applying data review filters at Step 3: Data review

Data review filters may be applied to your analysis set via the 'Manage filters' button.

1. A 'Manage filters' pop-up may be used to generate SQL based filter expressions. These allow you to batch select censuses for either inclusion or exclusion from the site-based census list generated by the data selection filters applied at Step 2 (see Figure 13.10).

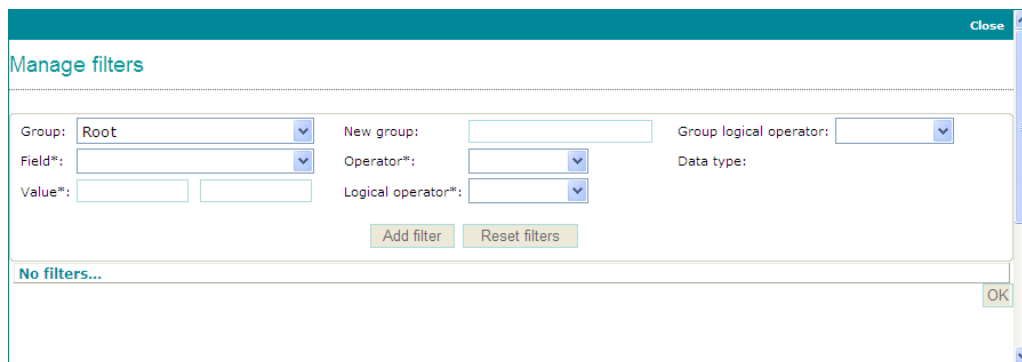


Figure 13.10 Manage filters

2. Definitions of each of the fields available in this pop-up are in Table 13.3. Mandatory fields are marked with an asterisk.

Table 13.3 Description of the fields available in the ‘Manage filters’ pop-up of the DAM

Field	Description
Group	Refers to a filter group. Use Root if only one filter group is to be applied, or [New group] if you wish to have two or more filter groups. You can apply multiple types of filters within one group.
New group	The name of the new filter group. You must provide a name if you are creating a new filter group. Only applicable if you select ‘New group’ in the Group dropdown.
Group logical operator	Used to filter records based on more than one condition. Options are as follows: <ul style="list-style-type: none"> • and censuses are returned if they satisfy both group filters • or displays a record if one of the first, or second conditions are true.
Field*	Refers to the data fields associated with censuses.
Operator*	Used to link the field to the value. Options available are as follows: <ul style="list-style-type: none"> = must equal specified value <> must not equal specified value IS NULL equals records with no data IS NOT NULL equals records with data > greater than < less than >= greater than or equal to <= less than or equal to LIKE contains the nominated value. <p>For text fields, it is recommended that you incorporate wildcards with your value e.g. Woll% To return all values that begin with ‘Woll’.</p> <p>NOT LIKE does not contain the nominated value.</p> <p>BETWEEN two values (i.e. a range).</p>
Value*	Enter Field values here (use both boxes if it is a data range).
Logical operator*	This field must always be populated to effectively run a query. This is the case even if only one condition is used. <p>When more than one condition is applied this field dictates how multiple conditions should be interpreted. The options are as follows:</p> <ul style="list-style-type: none"> • and displays a record if both the first and second conditions are true • or displays a record if at least one of the first, or second conditions is true.

3. The use of filters enables you to view censuses of interest, and then either manually exclude censuses or batch exclude the filtered results using ‘Exclude all’.

Applying a simple filter

A simple filter is one that occupies the same Group. Figure 13.11 shows that we are interested only in censuses that occur at Site numbers that begin with ‘F-RNP-100’ AND that use Hair tubes.

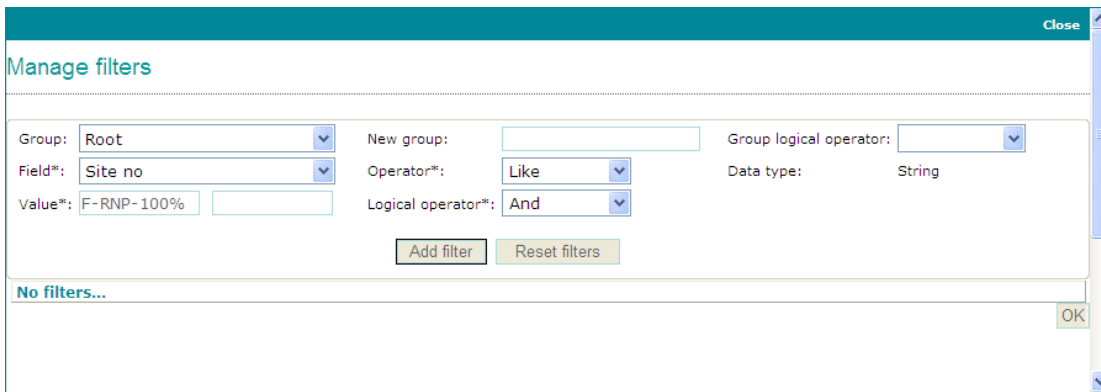


Figure 13.11 Simple filter

1. The 'New group' and 'Group' logical operator fields are left blank, as only one filter is being applied.
2. The '%' wildcard at the end of the Value field ensures that any sites that begin with 'F-RNP-100' are returned.
3. When we are trying to locate censuses that satisfy two filter criteria we use the Logical operator 'And'.
4. When 'Add filter' is clicked the filter will populate the table at the bottom of the pop-up.

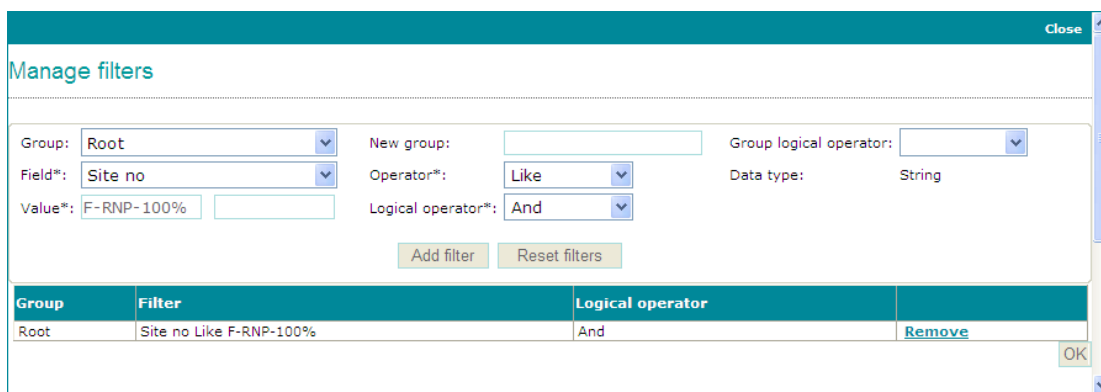


Figure 13.12 Simple filter applied

5. You can now add your second filter.

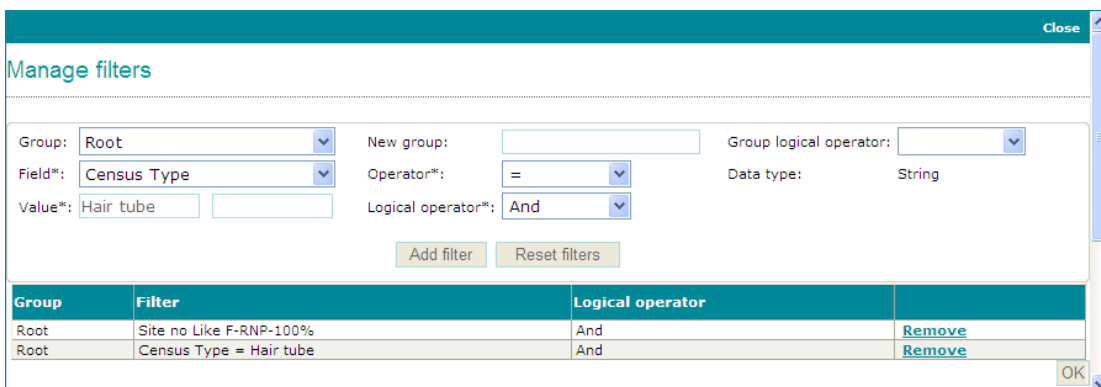


Figure 13.13 Second simple filter applied

6. Once happy with the filter(s) click the 'X'.
7. This will return you to Step 3: Data review. Your filter(s) will have been applied.
8. The Filters text box will now be populated with your filter(s) (see Figure 13.14).

Analysis set: [Your analysis set's name] [?](#)

Filters: (Site no Like F-RNP-100% And Census Type = Hair tube) Manage filters Clear

Select columns Include all Exclude all Reset

Target view: Included Excluded Both Page Size: 50

Results 1 - 50 of 68 1 2

Census DB ID	Survey name	Site no	Location description	Census Type	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10A	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10B	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10C	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11A	East Bottle Forest track, 0625km NE from Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11B	RNP- East Bottle Forest track, NE of Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11C	0.6km N of int with track to Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history

Figure 13.14 Data review table

9. In this instance all Hair tube censuses conducted at sites beginning with F-RNP-100 will be returned.
10. Further data review filters may be applied as desired after this point using the 'Manage filters' button. The 'Manage filters' pop-up will retain any previously instituted filters.
11. If you wish to remove your data review filters you can either use the 'Reset filters' in the 'Manage filters' pop-up, or use the 'Clear' button, located next to 'Manage filters' on the Step 3: Data review form.

It is important to note that at this stage you have not elected to exclude any censuses from your Data selection filter list. If you proceed beyond Step 3: Data review at this point, then all the censuses in the list when you originally opened this form will be used in your analysis.

Information on excluding, or including, censuses from your list can be found in [Managing your census list: Including and excluding censuses from an analysis set](#).

Applying complex filters using Groups

If you wish to apply two or more filter groups to your analysis set this can be easily done via the 'Manage filters' pop-up, courtesy of the Group and Group logical operator fields.

The Group logical operators enable more complex filters to be constructed. Each group filter is created using '[New group]' and then given a group name. Further criteria are added to that filter group by selecting the group from the 'Group' dropdown menu, and by selecting a logical operator.

For instance, if we are interested in Hair tube censuses conducted at sites beginning with F-RNP-100 (our Root group), OR any Elliott trapping censuses conducted at Site F-RNP-100-10B (our New group, which we will call Elliotts). The initial data entry would appear similar to that below:

- ‘Group’: As we are defining a new group, as distinct from the Root group, we need to select the ‘[New group]’ option.
- ‘New group’: We need to assign a name to the New group, in this instance Elliotts.
- ‘Group logical operator’: Defines how the groups in the filter set will interact. In this instance we want to view censuses that satisfy either the Root group OR the Elliotts group.
- ‘Logical operator’: This dictates how the filters within a group interact, e.g. how the filters within the Elliotts group interact.

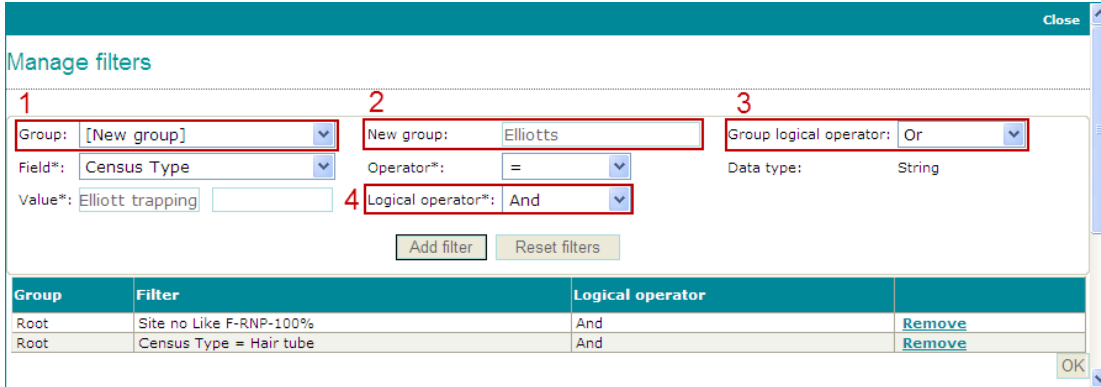


Figure 13.15 Complex filter options

1. Once the first filter of a new group is added that group will become available as a listing in the Group dropdown, as shown in Figure 13.16.

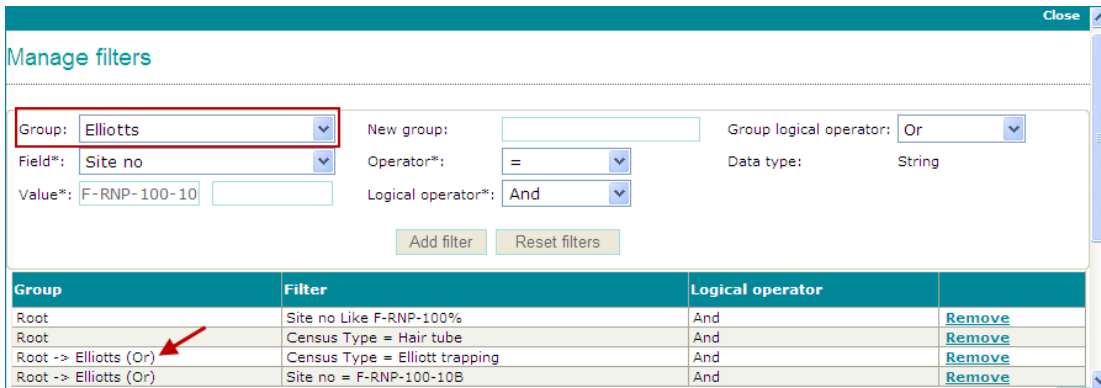


Figure 13.16 New group added in the Group column

2. The group logical operator applied will be displayed in brackets in the Group column (indicated by the arrow).
3. You may create as many filter groups as required.
4. The results of this complex filter are shown in Figure 13.17.

Analysis set: [Your analysis set's name] ?

Filters: (Site no Like F-RNP-100% And Census Type = Hair tube Or (Census Type = Elliott trapping And Site no = F-RNP-100-10B)) Manage filters Clear

Select columns Include all Exclude all Reset

Target view: Included Excluded Both Page Size: 50

Results 1 - 50 of 70 1 2

Census DB ID	Survey name	Site no	Location description	Census Type	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10A	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10B	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10B	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Elliott Trapping	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10B	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Elliott Trapping	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-10C	Lady Carrington Dr Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11A	East Bottle Forest track, 0625km NE from Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Hair Tube	View history

Figure 13.17 Complex filter results table

- If you wish to remove your filters you can either use the 'Reset filters' in the 'Manage filters' pop-up, or use 'Clear', located next to 'Manage filters' on the Step 3: Data review form.
- Information on including or excluding censuses from your list can be found in the next section.

Managing your census list: Including and excluding censuses from an analysis set

This section will describe the function of the buttons located immediately underneath the Filters text box.

These buttons alter the properties of the table displayed in the analysis set:

- Select columns:** allows for the addition of columns to the table. The columns available for addition are the fields that are available for querying within the **Manage filter** pop-up.
- Include all:** Batch includes all censuses on-screen to the analysis set. This will be greyed out by default.
- Exclude all:** Batch excludes all censuses on-screen from the analysis set. This will be active by default. For better flow the function of this button will be discussed before the function of the Include all button.
- Reset:** This will reset your census table to its default state. The default state will be either your census list with your data review filters applied or if you have not implemented any data review filters, then your original census list will be returned (i.e. census list after the Data selection filter(s) were applied).

Select columns

It may be helpful to add more columns when reviewing the census list, especially if you have filtered by fields not displayed in the table by default. You will be able to add more columns to the form for Step 3: Data review using 'Select columns'. Doing so will open a pop-up (see Figure 13.18).

	Name	UI order	Sorting Direction	Order
<input type="checkbox"/>	Acacias		Ascending	
<input type="checkbox"/>	Accuracy		Ascending	
<input type="checkbox"/>	Allocasuarinas		Ascending	
<input type="checkbox"/>	Altitude		Ascending	
<input type="checkbox"/>	Analysis comment		Ascending	
<input type="checkbox"/>	Aspect		Ascending	

Figure 13.18 Select columns pop-up

There are four interactive cells in the table displayed:

- **Checkbox:** Clicking in this activates a column that is not currently displayed. You can turn off active fields by unchecking the checkbox. The columns displayed by default will be greyed out and **cannot** be turned off.
- **UI order:** This defines the order that the columns will display in the table. If you assign two columns the same number, they will display based on alphabetical order.
- **Sorting direction:** This dropdown will only be active in columns where the checkbox is checked. You will be able to order your table by ascending or descending order. If you have nominated a direction you will need to nominate an order, even if there is only one column you are sorting by. If you do not, then you will corrupt your analysis set.
- **Sorting order:** This allows you to define the weight of each column in sorting preference. If you have nominated an order you will need to nominate a direction. If you do not, then you will corrupt your analysis set.

In Figure 13.18, 'Census notes' are added to the table as the fourth column in the census list. Census type (a default field as evidenced by the greyed out checkbox) is assigned a sort order (1 – sort by this column first) and sort direction (Ascending).

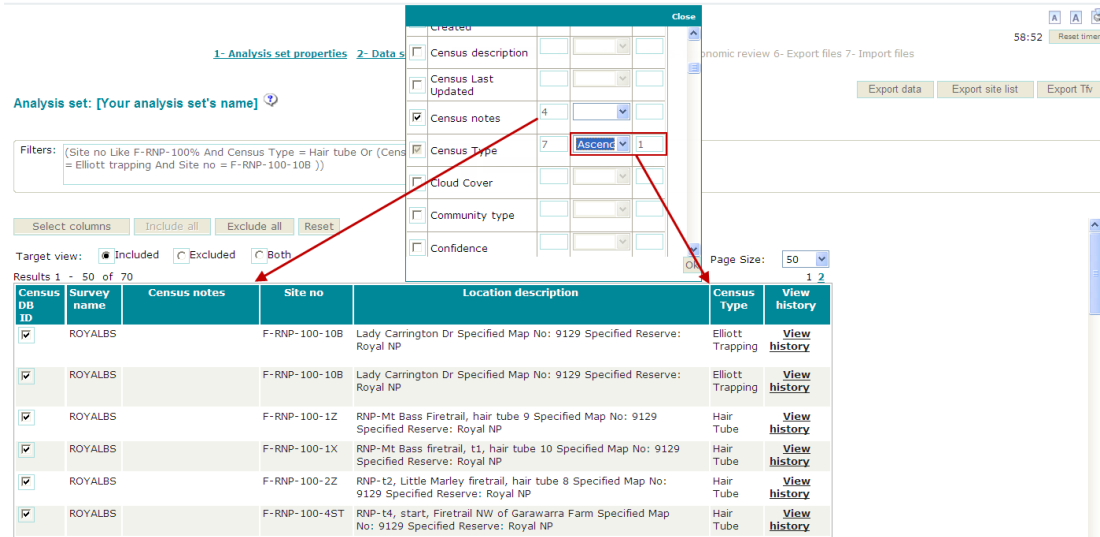


Figure 13.19 Census notes added

Warning

If you populate only one of either the 'Sorting order' or 'Sorting direction' fields then when you try to navigate to another section of the DAM that requires a page refresh you will get the following error:

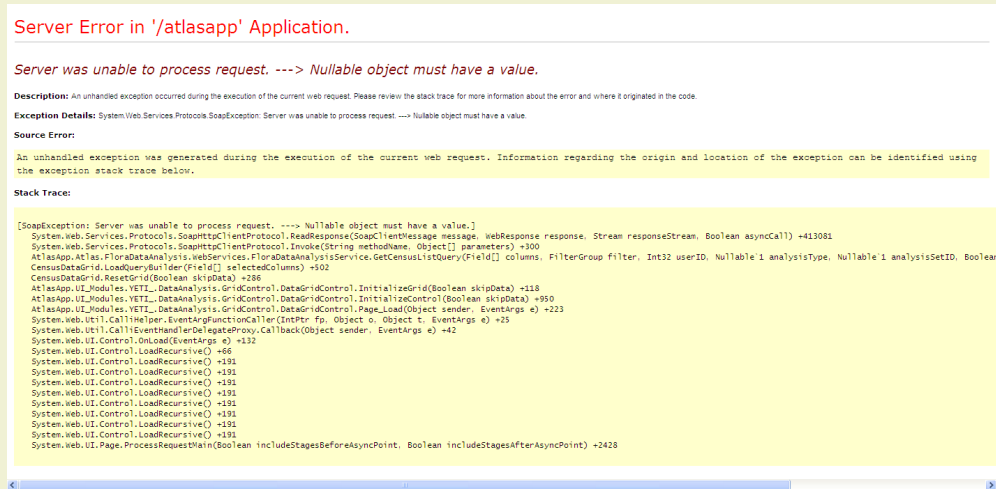


Figure 13.20 Server error message

Your analysis set is now corrupt and cannot be used. You will need to start a new analysis set.

Please see Appendices A and B for information on the columns and fields available at Step 3: Data review and Step 5: Taxonomic review, respectively.

Excluding censuses from an analysis set

This section will deal with the function of the 'Exclude all' button. As the intention of Step 3: Data review is to refine an analysis set and exclude any unnecessary censuses this button is

active by default. It allows you to batch filter out all censuses that satisfy the data review filter criteria.

In the example used thus far we have identified hair tube censuses from sites numbered 'F-RNP-100' as well as Elliott trapping censuses from the site 'F-RNP-100-10B'. This is because we are aware the hair tubes used at all F-RNP-100 sites were contaminated with dog hair, giving false positives, while the Elliott traps at site 'F-RNP-100-10B' were all rusted open, giving false negatives. Since we have identified these censuses using the instructions outlined in Applying data review filters at Step 3: Data review:

1. Click 'Exclude all'. This will open a 'Reason to exclude all' pop-up. Any information entered here will be stored against each individual census marked for exclusion. This information will be made available to other users of the DAM in which that census appears in their analysis set.
2. Once you have entered your reason and clicked 'X' the page will refresh, and the census list will display an empty table. This is because you have excluded all censuses that satisfy your data review filter criteria.

Excluding individual censuses from an analysis set

If you do not wish to exclude all censuses you also have the option to individually exclude censuses. This is achieved via the checkboxes in the first column of the census list table:

- Included census
- Excluded census.

After unchecking a row, a 'Reason to exclude' pop-up will display:

1. Provide a reason for excluding the census.
2. Excluded censuses may be viewed via the 'Excluded' radio button in the Target view.

Target view: Included Excluded Both

Figure 13.21 Target view fields

3. This will display any excluded censuses that satisfy your data review filter criteria. If no data review filter criteria have been applied, then clicking this radio button will return all censuses in the BioNet Atlas database that have not been included in your analysis set.
4. If you click 'View history' in one of the rows an 'Analysis history' pop-up will appear displaying that site's history in other user's analysis sets. This is where your reason for exclusion will appear for other users.



Figure 13.22 'Analysis history' pop-up

Table 13.4 describes the fields displayed in this pop-up.

Table 13.4 Description of the fields available in the ‘Analysis history’ pop-up of the DAM.

Field	Description
Site number	The site number of the site.
Start date	The start date of the census that the row relates to.
End date	The end date of the census that the row relates to.
Analysis set name	The name of the Analysis set where this census was returned after the Data selection filters were applied.
Owner	The owner (aka creator) of the analysis set.
Analysis date	The date the analysis was conducted.
Is excluded	Whether the census has been excluded from the analysis set (True) or has been included (False).
Comment	Any comments that the analysis set owner has added regarding the census. These may be added either via the Reason to exclude all pop-up, or the Analysis comment field (available via the Select columns button).

From here you will be able to individually add censuses back to the analysis set by checking the checkbox in the relevant row.

Including censuses in an analysis set

This section will deal with the function of the ‘Include all’ button. The use of this button relies on the use of the ‘Target view’ radio buttons:

Target view: Included Excluded Both

Figure 13.23 ‘Target view’ fields

1. To activate ‘Include all’ you will need to change your census list view to either ‘Excluded’ or ‘Both’.
2. It is advised that you only do this if you have applied a data review filter, otherwise the subsequent census list will display all censuses within the BioNet Atlas database that were excluded from your analysis set based on the criteria defined by the data selection filters.
3. If you accidentally excluded an individual census without a data review filter in place it is recommended that you:
 - From the Excluded target view create a Data review filter that isolates your census from the Excluded census list (See Applying data review filter at Step 3: Data review for further information on how to create filters).
 - Use ‘Reset’ located to the right of screen of ‘Include all’. This will restore your census list to its original state (i.e. with only the data selection filters applied).

Target view

The ‘Target view’ radio buttons describe the censuses displayed in the table on this page:

- ‘Included’: The default option, displays all censuses that are included in the analysis set. If there is a data review filter in place it will display the censuses that satisfy these filters. If there is no data review filter and you have not excluded any censuses, then this will display all site-based censuses in the BioNet Atlas database that satisfy the Data selection filter criteria. Any censuses that you have either batch excluded, or individually excluded will not be displayed in either scenario.

- ‘Excluded’: When a data review filter is active, navigating to this target view displays all censuses that have been either batch excluded, or individually excluded. If no data review filter is active, then clicking this will display all site-based censuses within the BioNet Atlas database that do not match your original data selection filters. This will also include any censuses you have nominated for exclusion.
- ‘Both’: When a data review filter is active this will display both included and excluded censuses that satisfy the data review filter criteria. If there is no active data review filter then this will display all site-based censuses within the survey module of the BioNet Atlas database.

Be aware when you have the ‘Included’ target view selected **and** a data review, or taxonomic review filter, in place the list you see is a list of censuses, or species, that satisfy your data review (or taxonomic review) criteria.

Simply running a review filter (be it data, or taxonomic) does **not** alter the checkbox status of any censuses or species that do not satisfy your review filter. This means that all censuses and species that do not satisfy your review filter criteria will retain their included checkbox status. They will just not be displayed in your list.

Analysis set: [Your analysis set's name] ?

Filters: Manage filters Clear

Select columns Include all Exclude all Reset

Target view: Included Excluded Both Page Size: 50

Results 1 - 50 of 836 1 2 3 4 5 ...

Census DB ID	Survey name	Site no	Location description	Census Type	View history
<input checked="" type="checkbox"/>	ROYALBS	0112	Junction of Wallaby Ck and Wild Cattle Ck Specified Map No: 9341 Specified Reserve: Beaury SF	Nocturnal Streamside	View history
<input checked="" type="checkbox"/>	ROYALBS	100	Centennial Park	Nocturnal Playbacks	View history
<input checked="" type="checkbox"/>	ROYALBS	10A	Lady Carrington Drive Specified Map No: 9129-4-N Specified Reserve: Royal NP	Diurnal Bird	View history

Figure 13.24 Analysis set without a review filter applied (836 site-based censuses in the analysis set)

Analysis set: [Your analysis set's name] ?

Filters: (Site no = F-RNP-100-11B) Manage filters Clear

Select columns Include all Exclude all Reset

Target view: Included Excluded Both Page Size: 50

Results 1 - 8 of 8 1

Census DB ID	Survey name	Site no	Location description	Census Type	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11B	RNP- East Bottle Forest track, NE of Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Diurnal Herpetofauna	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11B	RNP- East Bottle Forest track, NE of Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Pitfall Trapping	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11B	RNP- East Bottle Forest track, NE of Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Elliott Trapping	View history
<input checked="" type="checkbox"/>	ROYALBS	F-RNP-100-11B	RNP- East Bottle Forest track, NE of Karloo Pools Specified Map No: 9129 Specified Reserve: Royal NP	Diurnal Bird	View history

Figure 13.25 Analysis set with filters applied (eight results)

Only eight of the site-based censuses match the review filter criteria. However, the remaining 828 are still included in the analysis set, even though they are not visible in the list.

Export functions



Figure 13.26 Export function options

These three buttons allow you to export:

- ‘Export data’: A copy of the table displayed on-screen. Using the ‘Select columns’ button you can add as many data fields as you like. The extract will be saved as a ‘.csv’ file.
- ‘Export site list’: This button exports a site list complete with spatial data which you can use to plot sites. The coordinates generated in this file will be in GDA94.
- ‘Export tfv’: For flora analysis sets, this will generate a tab-delimited text file that can be used to upload data to a legacy YETI MS access database. The extract from this is intended for vegetation analysis.

Warning

If you use the **Export site list**, please be advised that the coordinates supplied are provided in GDA94. There is a column labelled ‘OriginalUnitTypeDesc’ that indicates the datum used when the coordinates were originally entered into the BioNet Atlas database.

All coordinates in the ‘.csv’ file generated will be in **GDA94**.

13.1.4 Step 4: Taxonomic selection

This step is used to generate the initial taxonomic list based on the census list. This will create a species list based on all site-based censuses you nominated for inclusion at Step 3: Data review, as well as any non-site-based censuses that satisfy the filters applied at Step 2: Data selection.



Figure 13.27 Taxonomic selection section

Several taxonomic assignment options are available, as explained below:

- ‘Default taxonomic mapping’: This is the recommended taxonomic assignment. Species will be displayed with their most current taxonomic assignment in the BioNet Atlas database.
- ‘As recorded’: this option means species will be displayed as they were originally entered into the database.
- ‘Taxa mapped to species level’: this option will group all subspecies, varieties and other infraspecific taxa to species level.

You must accept the default or select another option before clicking 'Generate taxonomic list'.

Once the taxonomic assignment is selected:

1. Click 'Generate taxonomic list'.
2. DAM will generate the species list based on the assignment specifications, and permanently save for further review, mapping and taxonomic review filtration.
3. The status of the analysis set will become 'Taxonomic assignment created' (see Figure 13.28).

Results 1-1 of 1

Name	Status	Description	Analysis set owner	Creation date
[Your analysis set's name]	Taxonomic Assignment Created		Adam Birnbaum	30/10/2012

Figure 13.28 Selecting a 'Taxonomic assignment'

13.1.5 Step 5: Taxonomic review

The underlying concept is much the same as for Step 3: Data review, whereby you can:

- 'Manage filters': apply SQL filters to selectively exclude taxonomic groups from your analysis.
- Add or remove columns from your table.
- Include or exclude specific taxonomic groups from your analysis set.
- 'Export data': export the taxonomic list displayed on the page.
- 'Import assignment': allows you to import a '.csv' file which nominates the taxonomic assignments desired. This function will only work if your list consists of species from one Kingdom (i.e. Only Fauna, or Only Flora). The '.csv' files must contain two columns titled:
 - 'Species code': The current BioNet Atlas species CAVS code, or CAPS code for Flora.
 - 'Assigned species code': The BioNet Atlas CAVS code (or CAPS code) which you would like to assign the species to. If instead it is desired to remove the species from analysis, the code 'delete' should be inserted in the 'Assigned species code' for that species code.
 - Note that when importing a taxonomic assignment, the user must first select one of the standard options (Default taxonomic assignment, As recorded or Taxa mapped to species level). For records in the Import assignment file. The taxonomic assignment will then be changed from the initial assignment nominated. For this reason, it is not necessary for the Import assignment to include records for all species, but only those species where the assignment differs from the standard option selected.
- 'Structural data export': export a '.csv' of the vegetative structural data captured on site.
- 'Sightings export': This button provides a complete export of sightings information for each individual record captured within the censuses that satisfy your Data selection, data review and taxonomic review filters.

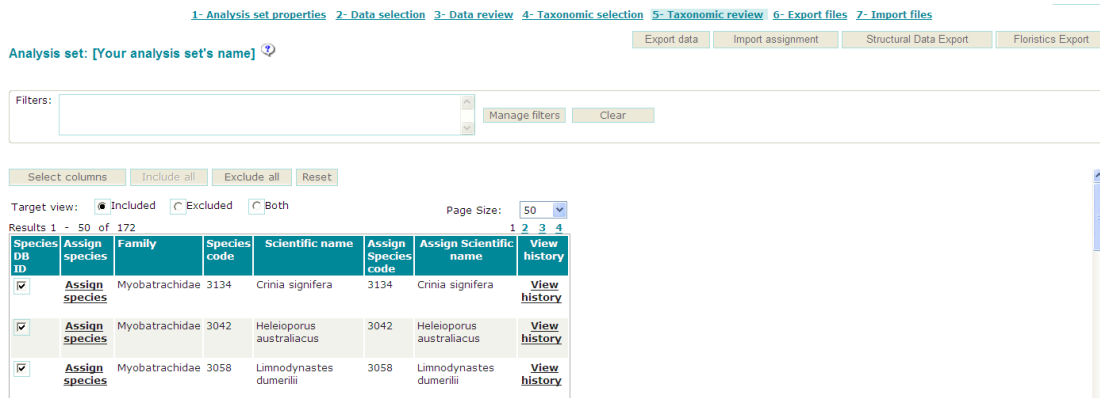


Figure 13.29 Floristics export

Each step in the DAM progressively builds upon earlier instituted steps. This means that species which appear only in censuses **excluded** in an earlier step (e.g. ‘Step 3: Data review’) will **not** be returned at ‘Step 5: Taxonomic review’.

As the processes for creating queries and adding or removing fields is the same as for ‘Step 3: Data review’ this information will not be repeated here. Please consult the relevant sections for further details on each of the options available:

- Creating queries through the application of taxonomic review filters.
- Managing your taxonomic list: Including and excluding species from an analysis set.
- Target view.

This step is used to export included censuses and taxonomic lists.

13.1.6 Step 6: Export analysis data

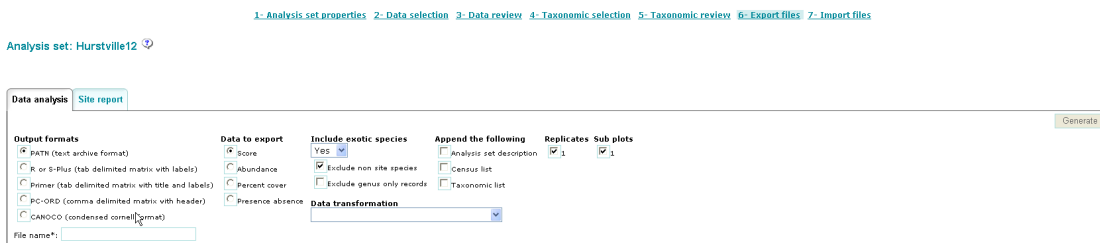


Figure 13.30 ‘Step 6 – Export analysis data’

The ‘Generate’ button can be used to generate analysis files that can be processed by other applications, like PATN. You first select the appropriate output format for the particular application.

1. Select data from the ‘Data to export’ list. If the type of data selected is ‘Score’, you can choose to transform the generated census scoring method according to a transformation available under ‘Data transformation’. Note that the ‘Generate’ process works in the background and is greyed out while processing. It returns to the active state once the job is completed, which could take a while depending on the size of the analysis set, and the output format (matrix generation is intensive and slow). After seven days, the download file is automatically deleted.
2. You can append the generated censuses and taxonomic lists, with the same column configuration as at the appropriate steps, to the bottom of the target analysis file by choosing from the ‘Append the following’ list. In addition, all replicate and sub-plot numbers related to the current analysis set may be included in the analysis file.

3. After generating the analysis file, a button ‘Download’ appears giving you the option to download and save the export file just created, for subsequent analysis by the particular application. Note that during the download operation the page refreshes every 10 seconds – this page will not time out (no requirement to select ‘Reset’ button).
4. The ‘Site report’ tab allows you to generate a site report for the census records in your analysis set (see Figure 13.31).

[1- Analysis set properties](#) [2- Data selection](#) [3- Data review](#) [4- Taxonomic selection](#) [5- Taxonomic review](#) [6- Export files](#) [7- Import files](#)

Analysis set: Hurstville South 



Figure 13.31 ‘Site report’ tab

Step 7: Import files

Step 7 is the last step. Its purpose is to import the results of analysis. The form for this step is shown in Figure 13.32.

[1- Analysis set properties](#) [2- Data selection](#) [3- Data review](#) [4- Taxonomic selection](#) [5- Taxonomic review](#) [6- Export files](#) [7- Import files](#)

Analysis set: Hurstville South 



Figure 13.32 Import Files

The purpose of the ‘Analysis Files’ tab is to allow you to import supporting documentation associated with the analysis (such as PDF, Excel, Word and .txt files).

1. Select the ‘New’ button to upload an analysis file.
2. The ‘Import classification’ tab (see Figure 13.33) allows you to import a PATN output file (‘.csv’ format only) back into the same analysis set where the PATN export file had been generated. This file should contain three columns – ‘Site’, ‘Group no’, and ‘Community type’.
3. After importing the file, view the analysis results in Step 3, by adding the columns ‘Community type’ and ‘Group number’ via the Select columns button.

[1- Analysis set properties](#) [2- Data selection](#) [3- Data review](#) [4- Taxonomic selection](#) [5- Taxonomic review](#) [6- Export files](#) [7- Import files](#)

Analysis set: Hurstville South 



Figure 13.33 ‘Import classification’ tab

13.2 Analysis set metadata and data selection

1. After selecting 'Data analysis', select 'Search existing analysis sets' (see Figure 13.34).

Figure 13.34 Search existing analysis sets

The string search fields available at the **Data analysis page** operate as exact searches. If you are unsure of the precise value for any string field, then it is recommended that you use the wildcard ('%') to run your search effectively.

This applies to the following fields:

Survey filters; 'Survey name', 'Site number', 'Principal' and 'Observer'.

Analysis set filters; 'Analysis set name', 'Parent analysis set', 'Analysis set owner', 'Genus', 'Species', and 'Infra species'.

E.g. Searching for the analysis set named 'Analysis of Wollemi NP Fauna'.

Search term	Is the "Analysis of Wollemi NP Fauna" analysis set returned in the subsequent results list?
Wollemi NP	No
%Wollemi NP	No
Wollemi NP%	No
%Wollemi NP%	Yes

2. You can search existing analysis sets for which you have (at least) read access, using predefined filters (survey and/or analysis). For example, if you had previously saved an analysis set under the name of 'Wagga98study', you can retrieve it by entering 'Wagga98study' in the 'Analysis set name' field and clicking 'Search'. You then have the option of reviewing the analysis set. See Section 13.1 for details on creating and saving an analysis set. Alternatively, you can view all saved analysis sets by simply clicking 'Search' without entering any search criteria.

Results 1-50 of 817
1 2 3 4 5 6 7 8 9 10 ...

Name	Status	Description	Analysis set owner	Creation date	Create sub analysis set	Clone analysis set	Review	Remove
2017_Rockley	Census List Created	Updated review of Rockley 2017 after targeted surveys	Daniel Connolly	04/09/2017				
2017_Rockley	Taxonomic Assignment Created	Updated review of Rockley 2017 after targeted surveys	Daniel Connolly	04/09/2017	Create sub analysis set	Clone	Review	
2017Glen Innes	Taxonomic Assignment Created	Updated 2017 Glen Innes ML Spp Accum	Daniel Connolly	01/09/2017	Create sub analysis set	Clone	Review	
2017Lamination_ML	Taxonomic Assignment Created		Daniel Connolly	01/09/2017	Create sub analysis set	Clone	Review	
A_VAMP	Census List Created		Tim Hager	04/04/2016	Create sub analysis set	Clone	Review	Remove
AA	Taxonomic Assignment Created		Geoff Robertson	30/07/2013	Create sub analysis set	Clone	Review	
Abercrombie_CH	Census List Created		Charles Huxtable	07/03/2017	Create sub analysis set	Clone	Review	
abnthhd	Taxonomic Assignment Created		Anne Baumann	15/11/2013	Create sub analysis set	Clone	Review	Remove
acacia	Taxonomic Assignment Created		Xia Hua	20/04/2017	Create sub analysis set	Clone	Review	Remove
acacia	Taxonomic Assignment Created		Xia Hua	20/04/2017	Create sub analysis set	Clone	Review	Remove
acacia	Taxonomic Assignment Created		Xia Hua	21/04/2017	Create sub analysis set	Clone	Review	Remove
acacia	Census List Created		Xia Hua	21/04/2017	Create sub analysis set	Clone	Review	Remove
acacia	Taxonomic Assignment Created		Xia Hua	21/04/2017	Create sub analysis set	Clone	Review	Remove
acacia	Taxonomic Assignment Created		Xia Hua	21/04/2017	Create sub analysis set	Clone	Review	Remove
achwegrasses	Taxonomic Assignment Created		Megan Powell	22/08/2017	Create sub analysis set	Clone	Review	Remove
Adelyne	Census List Created		Maya Potapowicz	29/05/2017	Create sub analysis set	Clone	Review	Remove

Figure 13.35 Results from Data analysis search without filters

3. Note that the resultant table shows the status of each analysis set. This will indicate which stage of the analysis wizard the analysis set has progressed to:

- ‘Census List Created’: indicates that only a census list has been created for the analysis set (see Section 13.1.3: Step 3: Data review). If you ‘Review’ an analysis set with this status you will be directed to Step 3 (Census Review) of the DAM wizard.
- ‘Taxonomic Assignment Created’: indicates that a taxonomic list has been generated (see Section 13.1.3 Step 4 Taxonomic selection). If you ‘Review’ an analysis set with this status you will be directed to Step 5 (Species Review) of the DAM wizard.
- The last three columns also display different results. The reasons for this are summarised in Table 13.5. These options depend on the user’s access privileges to the dataset that an analysis set is saved to.

Table 13.5 DAM Access rights

User’s access rights to the analysis set’s dataset	Search result table columns		
	Create subanalysis set	Clone analysis set	Review
No access to dataset	Not available	Not available	Not available
Read-only access to dataset	Available	Available	Available. However, will not be able to access Steps 2 and 4. Nor will you be able to apply extra filters to the analysis set.
Read/Write access to dataset	Available	Available	Available – full access privileges.

4. As mentioned earlier, depending on the status of the analysis set clicking either the name of the analysis dataset or ‘Review’ in the results table will direct you to the relevant step in the DAM wizard. That is, an analysis set with status ‘Census List Created’ will open at Step 3 (Census Review), while an analysis set with the status ‘Taxonomic Assignment Created’ will open at Step 5 (Species Review).

13.2.1 Spatial searches

Analysis sets may also be filtered based on geographic location.

1. Spatial searches can be applied in addition to the textual searches specified earlier in Section 8.2: Searching for existing analysis sets. The two spatial search options available are:
 - ‘Select from existing areas’ – a pop-up provides a variety of spatial layers, such as LGA boundaries, which allow you to confine the analysis set to the boundary (i.e. no buffer applied) of a predefined area (e.g. Blue Mountains LGA).

‘Define my own area’ – a map of New South Wales appears, after selecting ‘Select extent’, you can define your own area of interest by either drawing a rectangle on the map or by manually entering geographic coordinates. If you enter coordinates manually, ‘show extent’ will display the area on the map (see Figure 13.36).

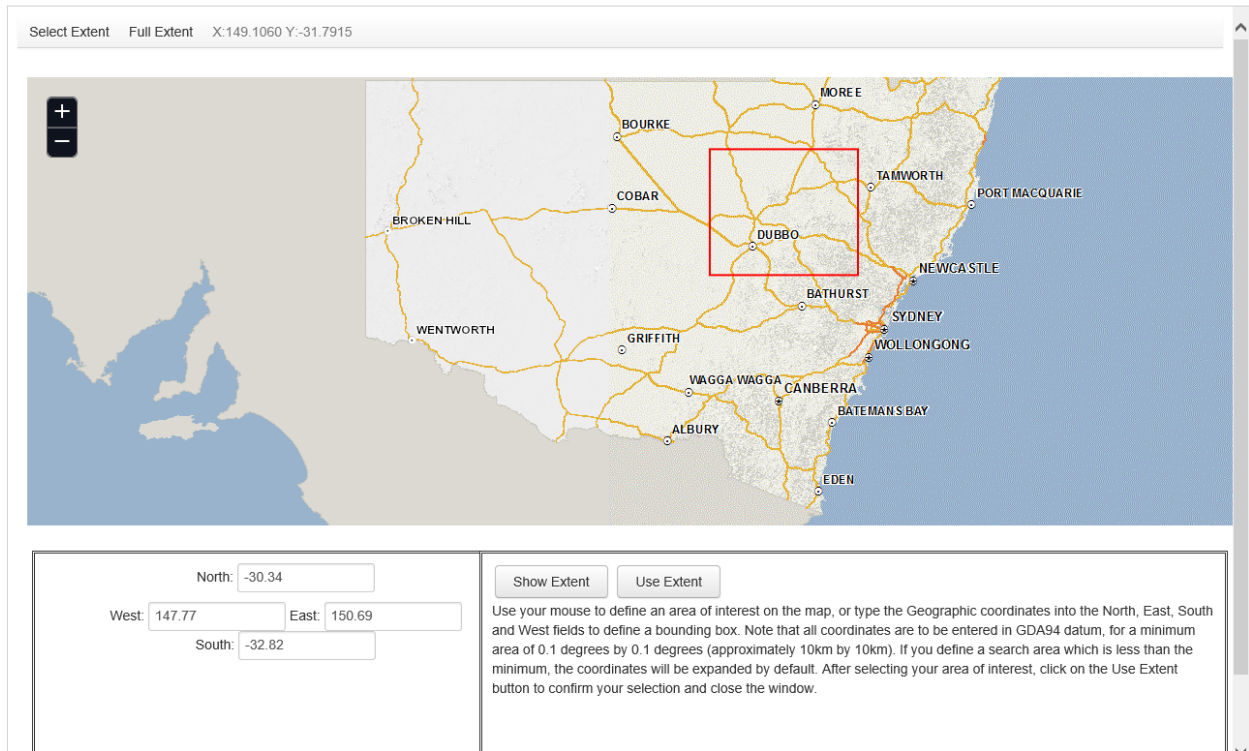


Figure 13.36 Define my own area map

2. Once you have defined your area of interest, you need to select 'Use extent' to apply your coordinates as a filter.
3. In the resulting 'Define my own area' pop-up box (see Figure 13.37), enter a 'Name', then click 'Ok'.

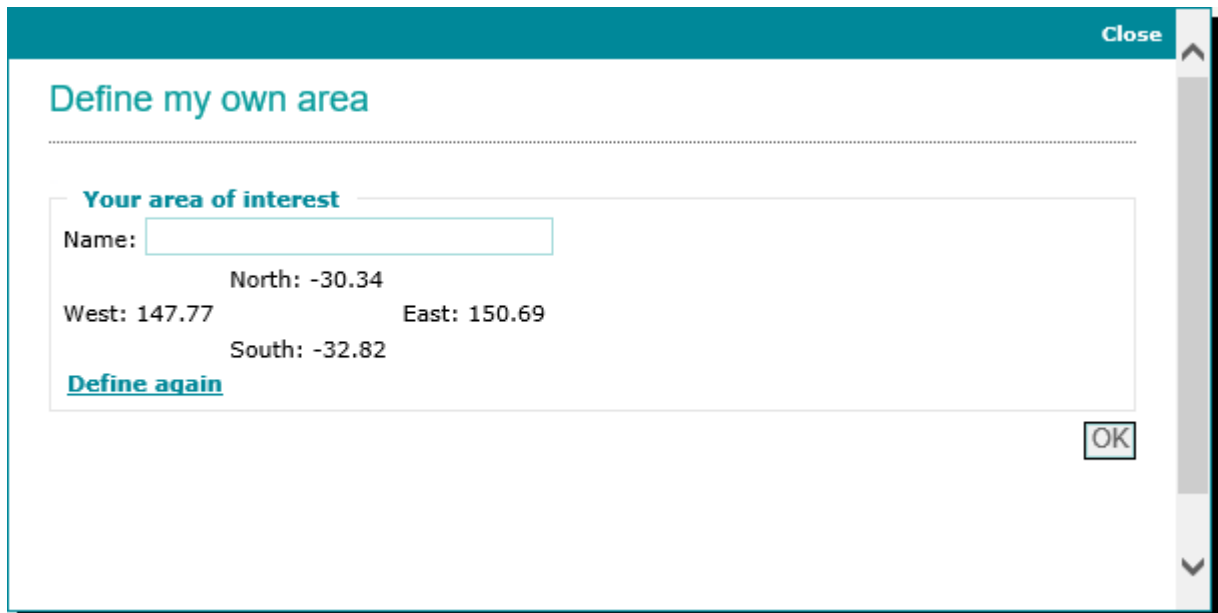


Figure 13.37 'Define my own area' data entry pop-up

13.3 Searching for and cloning existing analysis sets

If you wish to review or edit an existing analysis set, or alternatively use an existing analysis set as the basis for creating a new one rather than starting from scratch:

1. Click on the Search existing analysis sets button (see Figure 13.38). You can use wildcards in your search term. For instance, the wildcard % can replace 1 or many characters, so using '%wollemi%' in the survey filter, Survey code, will include all censuses from surveys that have 'wollemi' as part of the survey name, irrespective of where 'wollemi' appears in the survey name (see Figure 13.38).
2. Once you have completed any relevant filters, click 'Search' to return a list of Analysis Sets that meet the criteria.

The screenshot shows a search interface with the following sections:

- Survey filters:** Includes fields for Survey name, Site number, Survey start date (From/To), Principal, Custodian, and Observer.
- Analysis set filters:** Includes fields for Analysis set name (with a wildcard '%wollemi%'), Parent analysis set, Analysis set owner, Analysis set type, Dataset, Genus, Species, and Analysis set creation date (From/To).
- Selected areas:** Includes links for 'Select from existing areas' and 'Define my own area'.
- Search:** A central button to execute the search.
- Results 1-7 of 7:** A table listing search results with columns for Name, Status, Description, Analysis set owner, Creation date, and action links (Create sub analysis set, Clone analysis set, Review, Remove).

Name	Status	Description	Analysis set owner	Creation date	Create sub analysis set	Clone analysis set	Review	Remove
NE_Wollemi1	Census List Created	Analysis for local NE Wollemi ARea Study	Daniel Connolly	08/01/2013				
NE_Wollemi1	Taxonomic Assignment Created	Analysis for local NE Wollemi ARea Study	Daniel Connolly	08/01/2013				
NE_Wollemi1 clone	Taxonomic Assignment Created	Clone for taxonomic export only - JL	Jedda Lemmon	08/01/2013				
NE_Wollemi2	Taxonomic Assignment Created	Local NE Wollemi Area Study - Analysis 2	Elizabeth Magarey	31/07/2013				
Wollemi	Census List Created	Wollemi flora	Rod Ruffio	08/08/2013	Create sub analysis set	Clone	Review	Remove
Wollemi	Census List Created	Wollemi	Rod Ruffio	08/08/2013	Create sub analysis set	Clone	Review	Remove

Figure 13.38 Search filter results

3. Alternatively, you can list all saved analysis sets by simply clicking 'Search' without entering any search criteria. Note that the list shows the status of each analysis set, which indicates whether only a census list (see Step 3) or a taxonomic list (see Step 4) has been generated.
4. By clicking on the name of the analysis dataset or the link 'Review', you open one of the review steps, depending on the status. That is, an analysis set with status 'Census List Created' will open with the form for Step 3 (Census Review), while status 'Taxonomic Assignment Created' will open with the form for Step 5 (Species Review).

If you do not have, at least, read access to an analysis set, then it will appear in a list of search results, but it will not be viewable – you are unable to review it, or clone or create a sub-analysis set. An example of this is the analysis set *NE_Wollemi1* (see Fig 100). If you only have read access to the dataset within which the analysis set is stored, you are able to review, clone or create a sub-analysis set; however, you are unable to make any modifications to the analysis set, or remove it. You will notice that certain functions are no longer available, such as the Column Selector (see Section 8.4.4), or the ability to select Steps 2 and 4 from the menu at the top of the analysis set menu.

13.4 Creating dependent analysis sets

13.4.1 Create subanalysis set

1. Click on 'create subanalysis set' to create a child analysis set linked to the analysis set you have nominated.

2. Fill out Analysis Set details as before; however, the field Group Analysis Set will be pre-populated with the name of the analysis set selected as the parent. This is useful if you want to divide the analysis process into smaller analysis sets and group them all using one parent analysis set.

Grouped analysis sets can exist in one or more datasets; however, you must have, at least, read access to the security dataset assigned to the parent analysis set, to be able to use it as a parent analysis set. Figure 13.39 shows how an analysis set grouping is implemented.

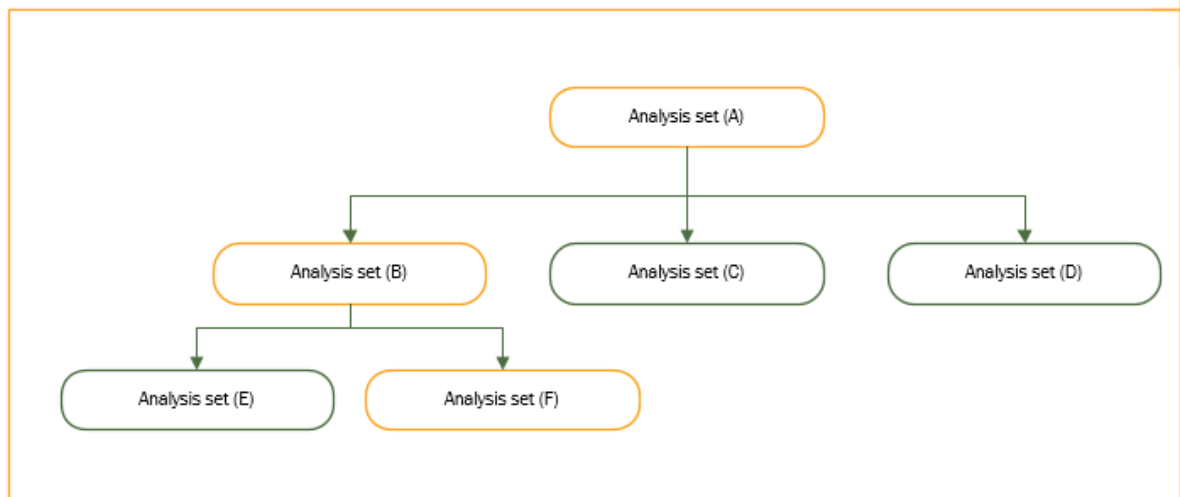


Figure 13.39 Analysis sets grouping

Figure 13.39 provides a conceptual overview of the parent/child relationship. In this example, analysis set A is the parent of B, C and D. Analysis set B also has child analysis datasets E and F. Analysis sets C, D and E do not have child analysis sets.

13.4.2 Clone

1. Click on the 'Clone' link to create a child analysis set linked to the analysis set you have nominated. The new analysis set will clone all the data from the source analysis set except for exported/generated files and imported analysis results. You must have at least read access to the source analysis set to be able to clone it.
2. Provide a name and a description for the new analysis set in the pop-up (see Fig 13.40). You may choose to place the new analysis set in the same security dataset as the source (if write access on this dataset is granted to you) or associate it with another security dataset.

Cloned analysis set type is also considered group analysis set type because the source analysis set will automatically be used as a parent analysis set to the newly created analysis set. The new analysis set will be cloned from the Parent analysis set when the checkbox 'Is cloned' is selected.

You are about to clone 2009 analysis set are you sure you want to proceed

Analysis set name*: Dataset id*:

Description:

Clone

Figure 13.40 Creating a clone of a dataset

14. Upload / import PCT survey data – ‘PCT Data’ module

Functionality is currently under development. Content will be updated once functionality is published.

Part D Systematic fauna surveys

The 'Fauna surveys' module is used to record systematic fauna survey data captured within BioNet Atlas.

As a module of the BioNet Atlas, the 'Fauna surveys' module satisfies a long-term intent towards the development of a single-point-of-truth for biodiversity survey information for New South Wales.

D.1 Data limitations

The data are limited by a number of factors. These include the user's level of access and the quality of the original source of the data:

- The 'Fauna surveys' module may contain errors. If you suspect an error at any level of a survey, please notify the [BioNet team](#) by supplying the relevant survey name, site number or census key and the details regarding the field in question (e.g. species name, location description/coordinates).
- As some of the data were collected in a time when GPS was not a standard tool, some datasets may be limited in spatial accuracy by the scale of mapping and mapping detail available at the time.
- Data in the 'Fauna surveys' module may be patchy. Please do not assume that all surveys provide comprehensive species data. Many census types are limited in the species that can be recorded using their methodology. Similarly, due to the cryptic nature of fauna, species can be difficult to record, even when employing targeted census types, consequently data should be treated as indicative only, not comprehensive.

D.2 Data structure

Structurally, the data has predominately the following form:

[Survey [Census [Site]]]

Where '**sites**' are a spatial element of a '**census**', which details basic information about the survey effort (number of traps or number of person hours etc) and the selected methodology, which occurs within a '**survey**'.

The '**survey**' defines how the basic components of the data are arranged. A single survey is usually defined in terms of a spatial limit (which may be as large as a bioregion or as small as a single property). The information captured into the database when establishing the survey is the basic metadata of the survey and should be as complete as possible. It is important to keep this metadata updated, especially with regard to reports (published or otherwise) that may come from the work.

A '**site**' is a specific location, with associated data. It is usually of limited extent (often 100 x 200m or 100 x 50m in size or a linear transect or even a point location). The location information and position in space is captured, while the relevant local government area, mapsheet and other administrative boundary (based on that location information) are automatically populated. It also has the capacity to capture any disturbances and water features present, as well as habitat features which may be important to fauna such as vegetation structure, presence of large old hollow bearing trees (stags), rock outcrops and important feed tree species.

An array of physical information about the site may also be stored at the site level, including physiographic characters that are not likely to change (geology, soil depth and type, slope and aspect).

A site may be visited multiple times either within a short period to perform censuses using several different technique types, or over a longer period to perform multiple censuses using the same technique type to measure temporal change. While they are usually unique, it will occasionally be found that a site is listed in a number of different surveys. For this reason, care must be taken if you ever change site details, as any amendments could affect other surveys, or censuses within your survey.

A '**census**' is an assessment taken using a specific technique at a specific time which forms part of a survey. The majority of censuses are conducted at a designated site. Censuses form the primary source of data for a survey - capturing species data and the methodology used.

Censuses measure animal communities that are likely to change over time. Consequently, they are both temporally and spatially unique. Although a site may be listed within multiple surveys each census will only occur within **one survey**.

15. Navigating the ‘Fauna surveys’ module

View and edit functions in this module are available to users as outlined in Table 15.1.

Table 15.1 Access to the ‘Fauna surveys’ module by User Role

Func	Public	Regist.	Sens. Spp. Lic.	Sens. Spp. Lic. + survey data edit rights	Govt.	OEH	OEH Threat. Biod.	OEH Admin
View	N	N	Y	Y	Y	Y	Y	Y
Edit	N	N	N	Y	Y	Y	Y	Y

1. Login to the BioNet Atlas database (see Section 2.2 Apply as a user and login).
2. Select the ‘Fauna surveys’ menu option.
3. Click on ‘Data maintenance’ (see Figure 15.1).

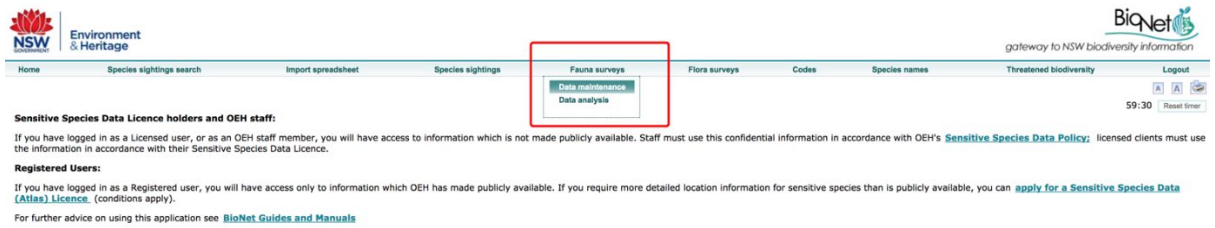


Figure 15.1 ‘Fauna surveys’ menu options

4. The ‘Fauna surveys page’ opens displaying two tabs; ‘Survey’ and ‘Census’.

Fauna survey

Figure 15.2 ‘Survey’ and ‘census’ search options for ‘Fauna Surveys’

5. The ‘Survey tab’ will initially display, providing you with the option to either:
 - ‘Search’ the database for an existing survey (see Section 15.1 Searching the Fauna surveys module)
 - Create a ‘New survey’ (see Section 16 Entering survey data).

The two tabs available: ‘Survey’ and ‘Census’, allow you to search data at either the survey, or census level.

15.1 Searching the 'Fauna Surveys' module

This section will deal with the search capabilities of the 'Fauna surveys' module only. For information on how to edit or create new surveys, censuses or sites refer to Section 16.1 Survey data, or Section 16.2 Census data (for census and site instructions). Likewise, details about the specific fields within the 'Fauna surveys' module can be found in Section 16 Entering survey data.

Searching via the 'Data maintenance' component of the 'Fauna surveys' module is useful for finding a survey or census to edit, or to locate an individual survey or census. If you would like to extract data and run analyses, it is recommended that you conduct your search using the 'Data Analysis Module' (DAM). Please see Section 13 Data Analysis Module for further details.

The first screen visible after selecting the 'Data maintenance' option of the 'Fauna surveys' module is the 'Fauna survey page'. Here you can review information about existing surveys to which you have access, edit existing survey or census data and create new surveys and censuses (provided you have the appropriate permissions; further information on this is available in Section 16 Entering survey data).

To search the 'Fauna surveys':

1. Enter details into one or more of the fields in the 'Survey' tab.
2. Details of each of the fields in the 'Survey' tab are in Table 15.2. Note that while you do not need to enter the entire value into each field, you need to enter at least the first part of the value. For example, typing the value 'a' into the Survey name field, will search on all Survey names that **begin** with the letter 'a', rather than contain the letter 'a'.

Table 15.2 'Survey' tab fields

Field	Description	Format
Survey name	The survey name; this is a survey's unique identifier.	Query is structured as a begin with query, therefore you will need to use the wildcard (%) to search for surveys that contain your search criteria, e.g. '%park', will search on all surveys with the term 'park' in the survey name. Submitting 'park' will search only on survey names that begin with 'park'. Free text, up to 30 characters.
Survey description	A description of the survey. This field is not compulsory at data entry, so may not be populated for all surveys in the Fauna survey module.	Query is structured as a contains query, therefore searching for the term 'park' will give all results that contain the term 'park' in the survey description field. Free text, up to 100 characters.
Principal /observer	The Principal (i.e. project leader) or the Observer (i.e. observer of any sighting attached to a survey). Observer details are stored	This field allows you to search on first name, surname, or both. Free text, up to 100 characters.

Field	Description	Format
	<p>differently depending on the census type. Some census types record individual observers for each sighting, other census types record observers for the entire census. This latter method means that each record within that census will have the same observer(s). If you are searching for an observer, please note that the search results will display the surveys in which that observer is saved but will not identify the individual censuses within that survey attributed to your specified observer.</p> <p>For instance, Teresa Green is listed as an observer in Census AA of Survey001. A search for Teresa in the Survey tab will only identify Survey001. Clicking on the Censuses link in the results table will display all the censuses for Survey001. It will not restrict the list to only those censuses for which Teresa was an observer.</p>	
Custodian	The person or organisation who retains responsibility for the maintenance of a dataset (e.g. OEH).	Free text, up to 100 characters.
(Census dates) From date	<p>Relates to the start date of a census. This field will search on the start dates of all censuses stored in the fauna survey module. If the start date of any census within a survey satisfies the criteria entered, then that survey will appear in the results. For this reason, your search may return results with a start date earlier than the specified from date.</p> <p>For example, submitting the search criteria 'Census date From: 07/08/2005' may return a survey with the start date 1/01/1990 and an end date 4/03/2010. This is due to the census with the end date (4/03/2010) satisfying the specified criteria, even though other censuses within the survey do not. You will need to</p>	Type in the format dd/mm/yyyy or click in the cell to select the date from the pop-up calendar.

Field	Description	Format
	use the Censuses tab to determine the specific censuses which satisfy your criteria.	
(Census dates) To date	<p>Relates to the end date of a census. This field will search on the end dates of all censuses within the fauna survey module. If the end date of any census within a survey satisfies the criteria, then that survey will appear in the results. For this reason, your search may return results with an end date later than the specified to date.</p> <p>For example, submitting the search criteria 'Census date To: 07/08/2005' may return a survey with the start date 1/01/1990 and an end date 4/03/2010. This may be due to the census with the start date (1/01/1990) satisfying the specified criteria, even though other censuses within the survey do not. You will need to use the Censuses tab to determine which censuses satisfy your criteria.</p>	Type in the format dd/mm/yyyy or click in the cell to select the date from the pop-up calendar.

If the survey you are searching for has not returned in the list (and you are sure you are entering the correct criteria), it may be that the survey has not been submitted to the BioNet Atlas database. You should contact the [BioNet team](#) for further details, or you will need to create a new Survey (see Section 16 [Entering survey data](#) for details).

3. To search on fields that **contain** the letter 'a' you will need to use the wildcard (%) (e.g. Searching '%a' will return surveys such as 'Royal').
4. Click 'Search'. All surveys matching the search criteria will display in the results list. Depending on your access rights you will see one of two options (see Figures 15.3 and 15.4).
 - 'Review': this link allows you to review the details for a particular survey by directing you to the 'Fauna survey maintenance' page.
 - 'Censuses': this link takes you to the 'Census' tab of the 'Fauna survey' page, with your census search filtered by the survey name. For further details see Section 15.2 [Census searches](#).
 - 'New census': allows you to create a 'new census' for the nominated survey. If you do not have data entry rights to the dataset the survey is linked to then you will not see this link. If you feel you should please contact the [BioNet team](#) to assist in arranging access. The custodian or principal will need to confirm your credentials

for this to happen. For further details on creating a new census please refer to Section 16.2 Census data.

Survey name	Description	Start date	End date	Custodian	No. of censuses	
ROYALBS	Royal Biodiversity Survey	27/09/1887	11/04/2000	Office of Environment and Heritage	849	Review Censuses

Figure 15.3 Fauna survey results screen for users with *view* access

Survey name	Description	Start date	End date	Custodian	No. of censuses	
ROYALBS	Royal Biodiversity Survey	27/09/1887	11/04/2000	Office of Environment and Heritage	849	Review Censuses New Census

Figure 15.4 Fauna survey results screen for users with *edit* access

Search results:

1. If more than 50 surveys return matching your search criteria, the first 50 will display on the first page, with multiple pages indicated by numbers above the table.
2. If more than 10 pages of results are available, the ellipsis ‘(...)’ will bring up the next 10 pages.
3. If your search generates no results, a ‘No surveys found’ message will appear.

15.2 ‘Census’ searches

Census searches may be conducted via one of three methods:

1. Search for a survey in the ‘Survey’ tab of the ‘Fauna survey’ page and then click on the ‘Censuses’ link to create a filtered view on the ‘Census’ tab.
2. Search for a survey in the ‘Survey’ tab of the ‘Fauna survey’ page, click on the link for the survey and then click on the ‘Censuses’ tab of the ‘Fauna survey maintenance’ page
3. Search directly from the ‘Census’ tab of the ‘Fauna survey’ page.

Census searches allow you to search using the following criteria:

1. ‘Census key’: The unique identifier of a particular census. For censuses entered manually through the BioNet application this will be a 12-character code in the format CXXXyymmddnn where
 - C: stands for Census
 - XXX: represent the unique initials of the BioNet Atlas user account of the person responsible for creating the census
 - yymmdd: represent the date that the census was created (e.g. a census created on 15 June 2009 will be displayed as 090615)
 - nn: sequential alphanumeric series based on the order of censuses created by the same BioNet Atlas user on the same day. E.g. if a user with the initials AXD creates three censuses on the 15 June 2009 then the first census will be CAXD09061500. The second census will be CAXD09061501 and the third census will be CAXD09061502.

For searches imported into the database this will be one of several formats:

- CXXXInnnnnnn where XXX represents the unique initials of the BioNet Atlas user account who imported the census, and nnnnnnn is a 7-digit sequential number indicating the order of entry of the data
 - SF-nnnnnnn censuses from the State Forests BioData dataset
 - RA-RF-nnnnnnn censuses from the Atlas of Australian Birds 1 dataset
 - BA-RFnnnnnnnn censuses from the Atlas of Australian Birds 2 dataset.
2. ‘Survey name’: if you have first searched for a survey, then this will be pre-populated from your survey selection.

3. 'Site number': The unique identifier of a site. This is a number created by the person responsible for entering the data and is limited to 40 alphanumeric characters, dash (-) and underscore (_).
4. 'Census type': A description of the method used in the census. You may pick one from a pre-determined list of census types.
5. 'Census description': A free text field describing the census.
6. 'Sighting key': The unique identifier for an individual sighting. If any of the sightings attached to a given census match the sighting key search term, then the census will be returned.
7. 'Location key': The unique identifier for an individual location. If any of the sightings attached to a given census have a location that matches the location key search term, then the census will be returned.
8. 'From date': as for Survey search.
9. 'To date': as for Survey search.

15.2.1 Census searches via the 'Survey' tab

Searching via the 'Survey' tab of the 'Fauna survey' page provides two avenues for a census search pre-filtered by survey:

1. Clicking 'Censuses' within the search results table of the 'Survey' tab of the 'Fauna survey' page (see Figure 15.5). This will automatically open the 'Census' tab of the 'Fauna survey' page, pre-filtered by your nominated survey i.e. the survey name field will be populated with your chosen survey (see Figure 15.6).

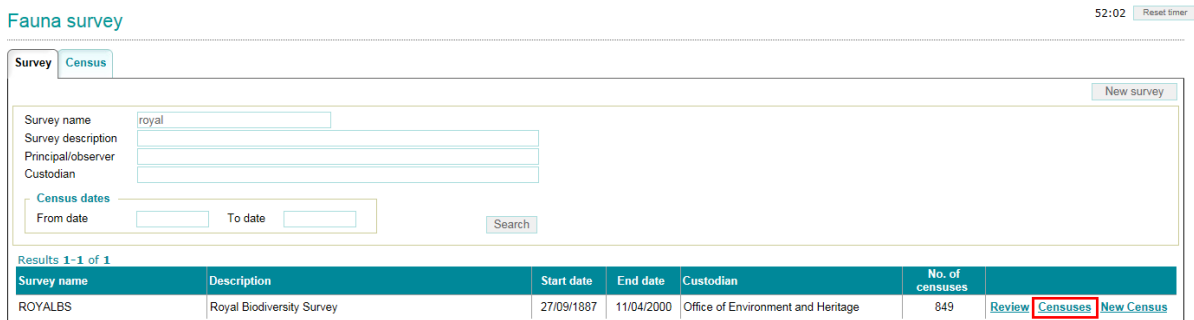


Figure 15.5 Location of 'Censuses' button within the 'Survey' tab results page

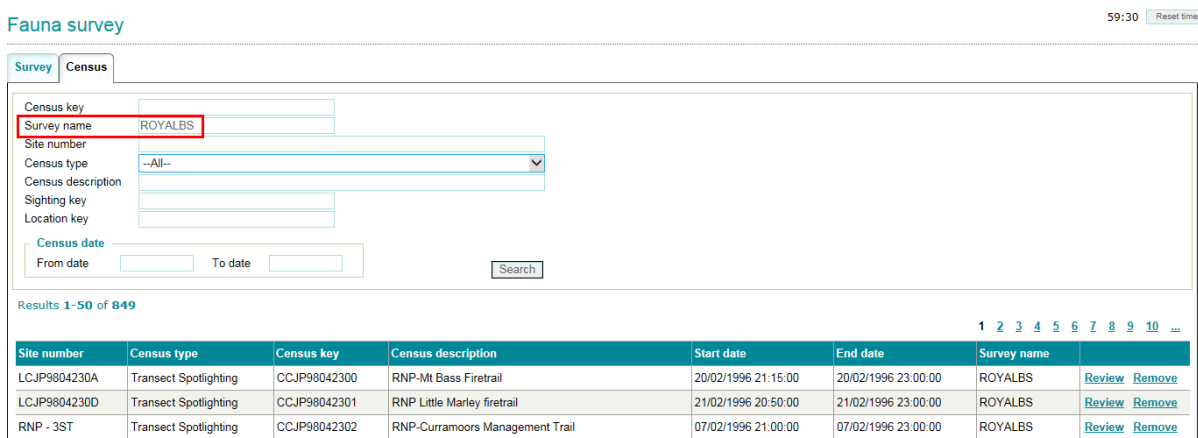


Figure 15.6 'Census' tab with survey and related censuses pre-populated

2. Click 'Review' within the search results table of the 'Survey' tab of the 'Fauna survey' page. This will automatically open the 'Fauna survey maintenance' page.

3. Click on the 'Censuses' tab. Notice that this tab is subtly different to the 'Census' tab of the 'Fauna survey' page:
 - page title – 'Fauna survey maintenance' page
 - identification of the survey name
 - survey name search field is non-editable
 - presence of the 'New census' button at the right of screen (depending on your access privileges for the survey this may either be active, or inactive).
4. Click 'Review' in any row to navigate to the 'Fauna census maintenance' page.

For further details on the tabs and fields contained within the 'Fauna census maintenance' page please refer to Section 16.2 Creating a new census.

5. Click 'Back to search' to return to the 'Survey' tab of the 'Fauna survey' page. Your previous search criteria will be retained.

54:40 [Reset timer](#)

Fauna survey maintenance a

Survey name - ROYALBS b [Save](#) [Back to search](#)

Fields marked with an asterisk (*) are mandatory.

General Principal Security Publications **Censuses**

Census key d [New census](#)

Survey name ROYALBS c

Site number

Census type --All--

Census description

Sighting key

Location key

Census date

From date To date [Search](#)

Results 1-50 of 849

Site number	Census type	Census key	Census description	Start date	End date	Survey name	
LCJP9804230A	Transect Spotlighting	CCJP98042300	RNP-Mt Bass Firetrail	20/02/1996 21:15:00	20/02/1996 23:00:00	ROYALBS	Review Remove
LCJP9804230D	Transect Spotlighting	CCJP98042301	RNP Little Marley firetrail	21/02/1996 20:50:00	21/02/1996 23:00:00	ROYALBS	Review Remove
RNP - 3ST	Transect Spotlighting	CCJP98042302	RNP-Curramoors Management Trail	07/02/1996 21:00:00	07/02/1996 23:00:00	ROYALBS	Review Remove

Figure 15.7 'Census' search results page

15.2.2 Census searches via the 'Census' tab

To conduct a more general census search:

1. Select the 'Census' tab of the 'Fauna survey' page. As with surveys, you can conduct a search for all censuses that you have at least read access to by leaving all the fields blank and clicking the search button.
2. As with the results of a search via the 'Survey' tab, a table will be generated.

Fauna survey 57:23 [Reset timer](#)

Survey **Census**

Census key

Survey name

Site number

Census type

Census description

Sighting key

Location key

Census date

From date To date

Results 1-50 of 6302 1 2 3 4 5 6 7 8 9 10 ...

Site number	Census type	Census key	Census description	Start date	End date	Survey name	
Brendan1	Nocturnal Playbacks	CADB12060603		04/06/2012 00:00:00	04/06/2012 00:00:00	Data Priorities	Review Remove
2554456	Haip Trapping On Site	CADB12061500		05/06/2012 00:00:00	05/06/2012 00:00:00	Data Priorities	Review Remove
SXB001W	Diurnal Bird	CAJO0705070H	Sth Yengo - Melong/Pierces area - Powerline Tk Apx 1km NNE 6 Brothers Waterhole	24/10/2006 07:15:00	24/10/2006 07:35:00	Data Priorities	Review Remove
SXB002W	Diurnal Bird	CAJO0705070I	Sth Yengo - Melong/Pierces area - Pwrlne 900m SE of Jct Putty Rd & Mellong Trail	24/10/2006 08:10:00	24/10/2006 08:30:00	Data Priorities	Review Remove
SXB003W	Diurnal Bird	CAJO0705070J	Sth Yengo - Melong/Pierces area - Headwater of Tinda ck Melong Tri w side 3-400m	24/10/2006 09:28:00	24/10/2006 09:48:00	Data Priorities	Review Remove
SXB004O	Diurnal Bird	CAJO0705070K	Sth Yengo - Melong/Pierces area - Gully N of Womera trail...	25/10/2006 10:37:00	25/10/2006 10:57:00	Data Priorities	Review Remove

Figure 15.8 'Census' tab

- Note if no censuses match your search criteria, a 'No censuses found' message will appear. Depending on your level of access you may see one, or two link(s) in the last column:
 - 'Review'. All users will see 'Review' which will enable you to navigate to the 'Fauna census maintenance' page. For further details on the tabs and fields contained within the 'Fauna census maintenance' page please refer to Section 16.2 Census data.
 - Click 'Back to search' to return to the 'Survey' tab of the 'Fauna survey' page. Your previous search criteria will be retained.
 - 'Remove'. Only users with edit access to the dataset that a census is written to will see a second link titled 'Remove'. This enables the user to delete a census from the database.

You should always review a census first to ensure that it is the one you actually need to remove. Please check that there are no sightings written to the census as these will also be removed from the database. If you are at all uncertain, please contact the [BioNet team](#) before proceeding.

16. Entering fauna survey data

To contribute fauna survey data, you will need to have first notified the BioNet team of your intentions to add survey data so that they may grant you edit rights to an appropriate dataset. The BioNet team will either create or grant access to an existing dataset under which all the survey data collected will be held and readily identifiable. Security at the dataset level ensures that your survey is read and/or write-accessible only to appropriate users, rather than all users of the BioNet Atlas database.

Are you doubling your work effort?

If you are contributing data to the fauna survey module, please do **not** import the same data using the 'Species sightings' module.

The BioNet Atlas is a composite database consisting of records from all three modules ('Fauna surveys', 'Flora surveys' and 'Species sightings'). Attempting to add data by importing a spreadsheet and entering records as part of a systematic survey will only unnecessarily increase your work effort as whichever records you enter last will be flagged as duplicates of those entered earlier.

Before you enter any records please decide which module of the BioNet Atlas is the most appropriate to use for data entry. If you need assistance in determining which is the most appropriate module to use for your data entry, please contact the [BioNet team](#).

For a summary workflow on contributing data to the 'Fauna surveys' module, refer to Figures 16.1 and 16.2.

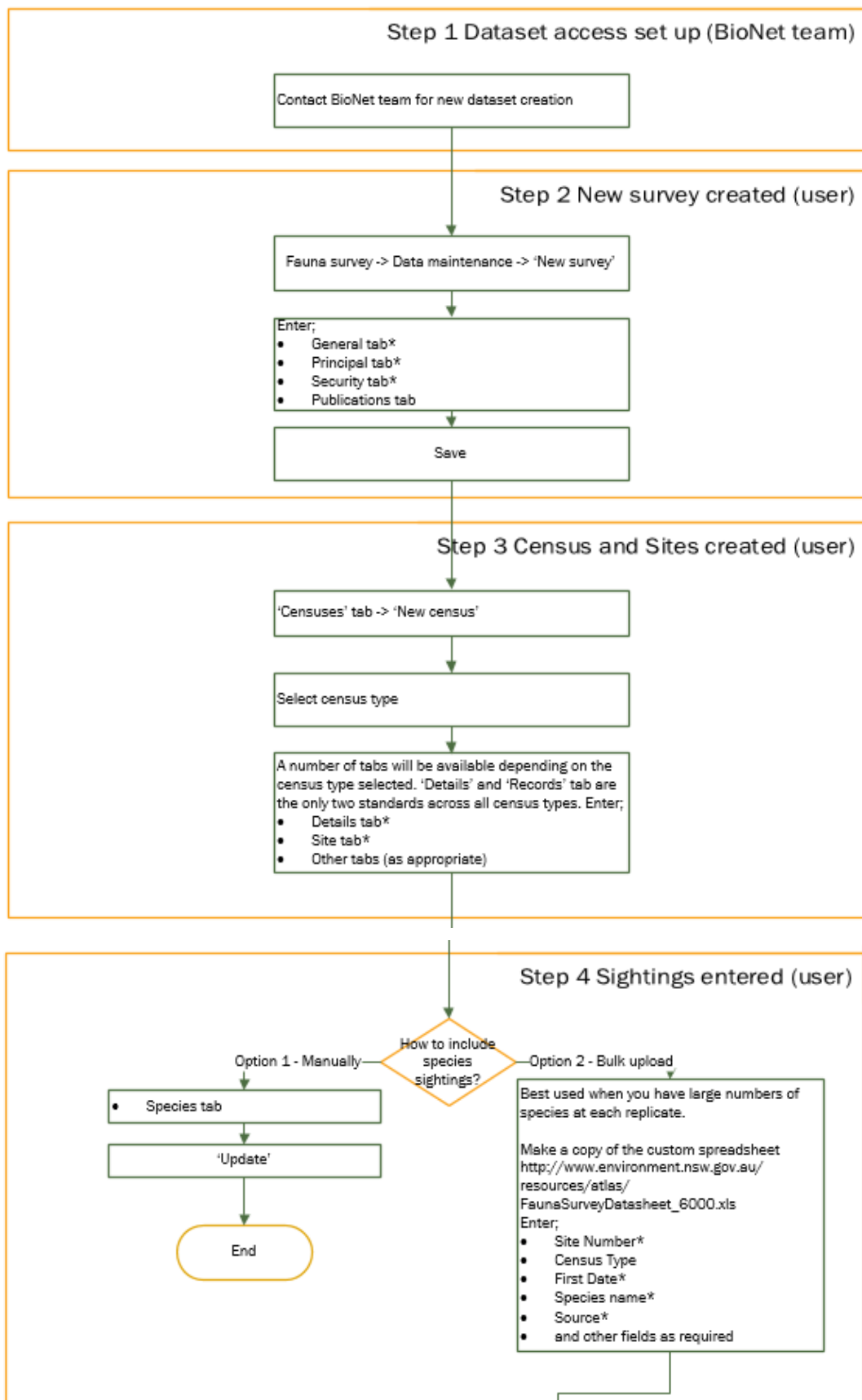


Figure 16.1 Contributing systematic fauna survey data – Steps 1 to 4

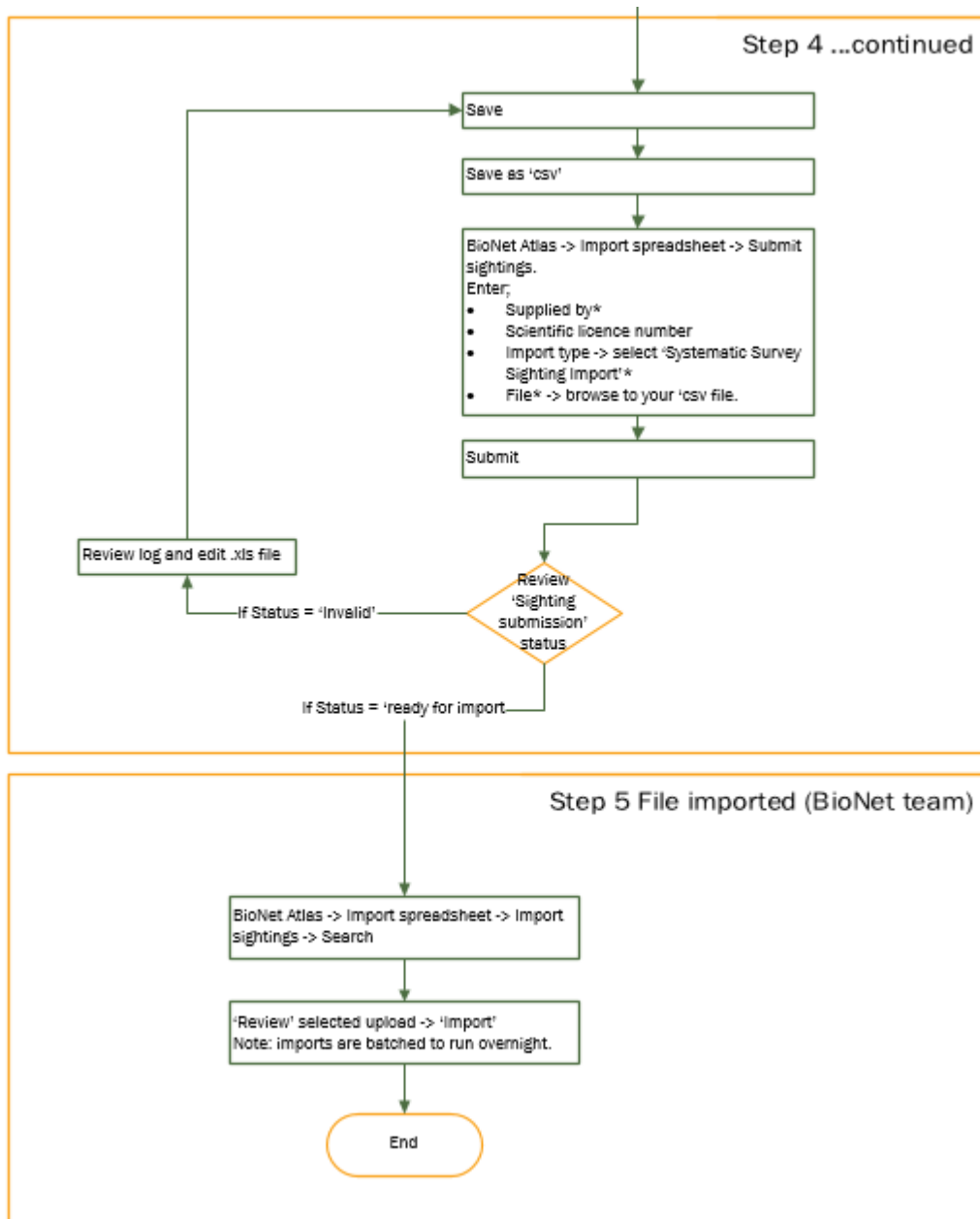


Figure 16.2 Contributing systematic fauna survey data – Steps 4 to 5

16.1 Creating a new survey

Before you begin attempting to create a new survey it is worth noting that you need a few details to successfully save a survey. Please ensure you can satisfy the criteria in Table 16.1 before attempting to create a survey. For new surveys, you will most likely need a new 'Dataset' created. Contact the [BioNet team](#) to organise this.

Table 16.1 Minimum fields required to create a new survey

Tab	Field	Description
General	Survey name	Unique identification name for your survey.
Principal	Principal	Identifies the primary surveyor responsible for the survey.
Security	Dataset	Determines the access permissions for individual BioNet Atlas users.

To create a new survey:

1. Navigate to the 'Fauna survey' page.
2. Click 'New survey' at the top right of the 'Fauna survey' page to be directed to the 'New fauna survey' page. See Figure 16.3.

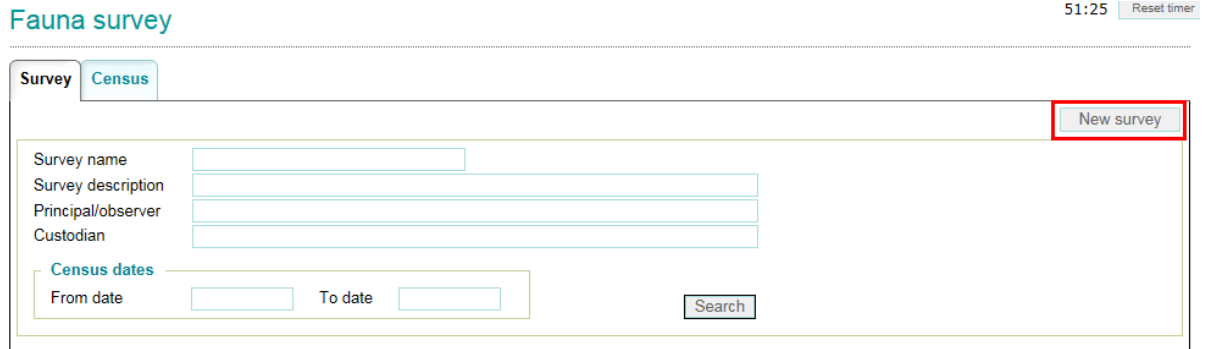


Figure 16.3 Location of 'New survey' button on the 'Fauna survey' page

16.1.1 Populating the survey data fields

The 'New fauna survey' page has five tabs:

- 'General'
- 'Principal'
- 'Security'
- 'Publications'
- 'Censuses'.

'General' tab

New fauna survey

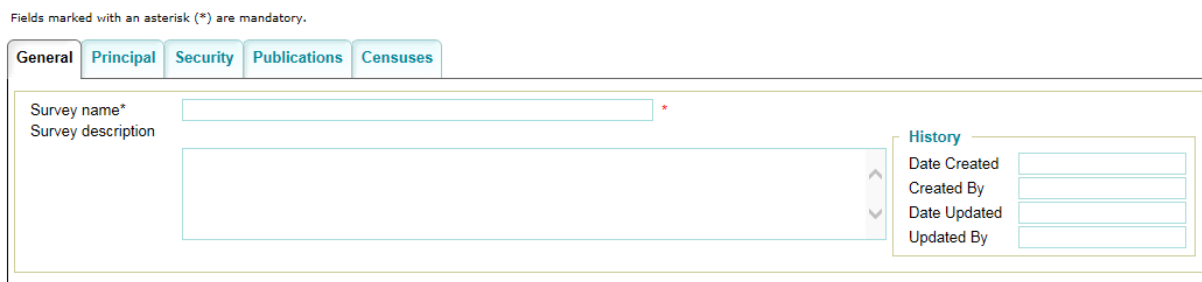


Figure 16.4 'General' tab of a 'New fauna survey'

1. 'Survey name*': Enter a survey name. This is a free text field restricted to a maximum of 40 alphanumeric characters. Create a meaningful survey name as once you have saved a survey name, you cannot change it.
2. 'Survey description': This free text field is available to provide a description of the survey. This is not a required field but may be useful to other users of the fauna survey module.
3. Once the information in the 'General' tab is complete, you may receive a warning pop-up when you attempt to navigate out of the 'General' tab.

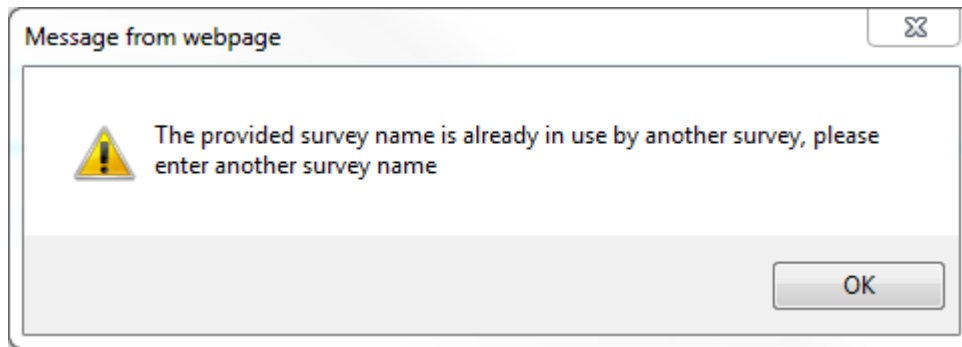


Figure 16.5 Warning message

4. If a message appears, it means your nominated survey name is already in use. You will need to rename your survey. Though it might be worth first checking that you are not duplicating your work effort by entering survey data that is already in the database.
5. Conduct a survey search (see Section 16.1: Survey searches) to confirm that your survey data is unique and not a duplicate of the survey which shares your survey's name.

'Principal' tab

Background to Principal/Custodian/Observer/Recorder data in the BioNet Atlas database

The BioNet Atlas database contains one table that stores the contact details for individuals linked to sightings or surveys within the various modules (i.e. 'Species sightings', 'Fauna surveys', 'Flora surveys').

These individuals are referred to differently depending on the module viewed:

'Sightings sightings' module – Observer

'Fauna surveys' module – Custodian, Principal and Observer

'Flora surveys' module – Custodian, Principal and Recorder

The differing nomenclature represents the different role each type plays in the respective module.

Custodian: Organisation or individual responsible for ensuring the accuracy, currency, storage, security and distribution of a data set. The custodian is not necessarily the copyright holder, or the author of the data.

Observer: This individual has either observed a particular species or was responsible for conducting a census within a survey.

Principal: This individual is the primary person responsible for a survey.

Recorder: This individual has recorded the details for a vegetation survey replicate including compiling the species list.

As all four types of individual are linked, searching within a 'Search for Principal/Recorder/Observer' pop-up will return results for individuals within any of the four categories.

For this reason, care must be taken when editing the details of a Principal/Recorder/Observer as the observer record you are editing may be used elsewhere in the BioNet Atlas database.

The 'Principal' tab is used to identify the principal surveyor for the survey:

1. Add as many as you require. At least one must be entered.
2. Two methods are available for linking a principal to your survey – search or create a new principal.



Figure 16.6 'Principal' tab of a 'New fauna survey'

Searching for a principal

1. Click 'Search' to bring up the 'Search for principal' pop-up.
2. Type in all (or part) of the surname and/or given name(s) in the subsequent pop-up. In Figure 16.7, searching on Surname Green' and Given name(s) 'Ter' will return all name entries that **contain** both values, rather than only those surnames that **begin** with either search phrase.

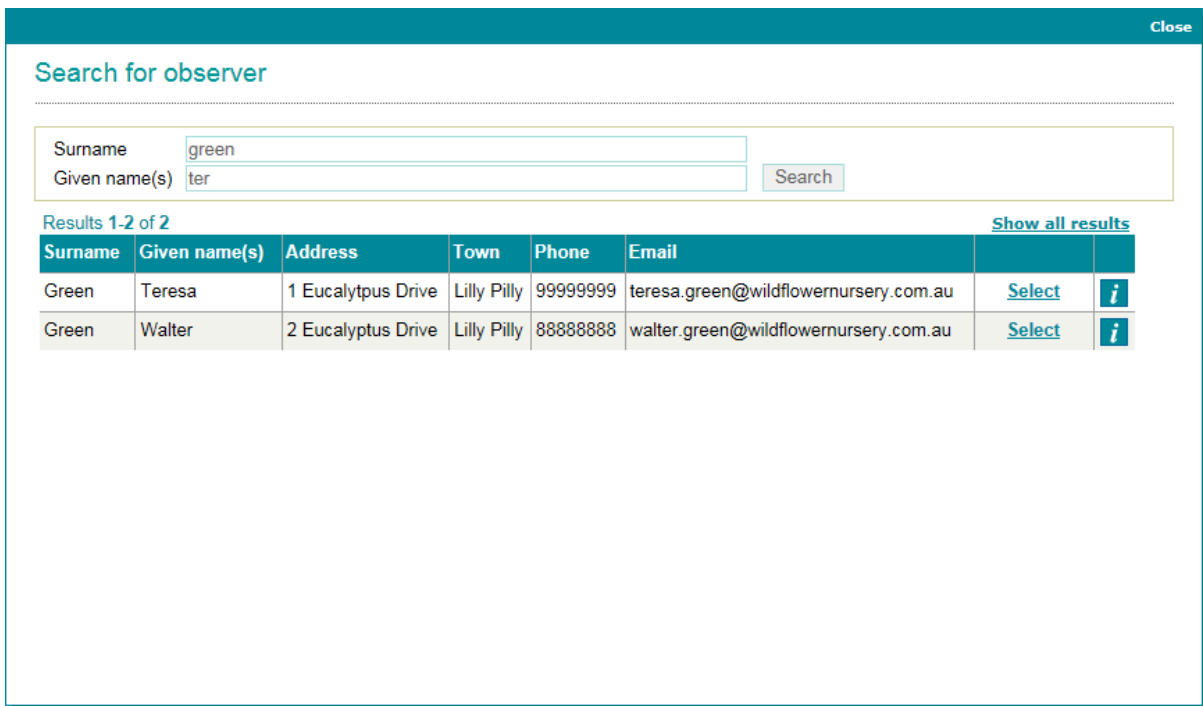


Figure 16.7 Search results for principal

Often you may find that the same observer has been entered multiple times. In some cases, this is the result of multiple observer names being created in different (then) NPWS offices when the original BioNet Atlas was a standalone database (i.e. prior to it being centrally available). In other cases, it's possible that insufficient or different contact details were attributed to the original entry, so multiple entries were created for the same observer by different staff. Another reason is because datasets, including those within the previous vegetation survey databases or licensed datasets such as the Royal Botanic Gardens (RBG) and Forests NSW, are created automatically via a bulk import process.

3. Click on the 'i' button, for an observer, to obtain a pop-up of additional contact details (see Figure 16.8).
4. If the extra details displayed here confirm the observer is the one you are searching for, click outside of the information box to close the box.
5. Click 'Select' to choose the principal.
6. The 'Search for principal' pop-up will disappear, and the details of the observer will automatically be added as a row to the 'Principal' tab.

If there are multiple entries for the same principal, with the same contact details, select the entry with the most complete and up-to-date information. You can check the database to see the last time the Principal details were updated.

7. To check the last time details for a principal were created or updated, click 'Review' in the last column of your principal's row.
8. An 'Edit principal' pop-up will open. If you look at the bottom right of the pop-up, you will notice a History section. This will indicate the date the details were last updated (i.e. the 'Date Updated' field). This does not necessarily mean that all details were reviewed and updated at this date, but that at least one field was edited on this date.

Fields marked with an asterisk (*) are mandatory. Update

Principal identification

Principal key: OMAU18082000
 Surname*: Green Given names: Teresa
 Occupation: Horticulturist
 Notes:

Contact details

Address: 1 Eucalyptus Drive
 Town: Lilly Pilly State: NSW Postcode: 1111
 Email: teresa.green@wildflowernursery.com.au
 Contact no. ?

Phone type	Phone number	
Main	99999999	Review Remove
Main <input type="button" value="v"/>	<input type="text"/>	Add

History

Date Created: 20/08/2018 09:30:24
 Created By: Maintenance1 Maintena
 Date Updated: 20/08/2018 09:30:24
 Updated By: Maintenance1 Maintena

Figure 16.8 'Edit principal' pop-up

Create a new principal

If the observer you are searching for is not already stored in the database, then you will need to create a new entry:

1. Click the 'Search for principal' pop-up (if applicable).
2. Click 'New'. A 'New principal' pop-up will appear (see Figure 16.9). Table 16.3 lists descriptions and required formats for each of the fields in the 'New Principal' pop-up.

Figure 16.9 'New principal' pop-up

Note that while the 'Surname' is the only mandatory field, ensure you enter as many details as possible. This both avoids duplicate observer entries being created in future and also assists staff ability to contact principals in the future should further details regarding the survey be required.

Table 16.3 'New Principal' fields

Section	Field	Description	Format
Principal identification	Principal key	A code automatically assigned to each principal entered.	N/A Auto-populated, protected from edits.
	Surname*		Free text, up to 60 characters.
	Given names		Free text, up to 60 characters.
	Occupation		Free text, up to 40 characters.
	Notes	Any additional notes regarding the principal, such as experience with species identification, qualifications and alternate mailing address etc.	Free text, up to 500 characters.
Contact details	Address		Free text, up to 50 characters per line.
	Town		Free text, up to 30 characters.
	State		Select from dropdown list.
	Postcode		Integer, four digits.

Section	Field	Description	Format
	Email		Free text, up to 75 characters.
	Phone type	The type of contact number, as listed in the dropdown list. Note that details can be stored for multiple phone types.	Select from dropdown list.
	Phone number		Free text, up to 30 characters.
<p>NB: After adding the phone number for each phone type, always click on the 'Add' link (located to the right of the Phone number field) to save the details of each Contact number. Clicking on the 'Add' button (located in the top right corner of the Principal pop-up), without first clicking on the 'Add' link, will result in the last entered phone number not being saved.</p>			
History	Date created	The date the sightings was first entered into the database.	N/A Auto-populated, protected from edits.
	Created by	The name of the OEH officer who entered the record.	N/A Auto-populated, protected from edits.
	Date updated	If edits have been made to the record since it was originally entered, the date that the record was last re-saved.	N/A Auto-populated, protected from edits.
	Updated by	The name of the OEH officer who edited / re-saved the record.	N/A Auto-populated, protected from edits.

* Indicates mandatory field

- Once all principal contact details have been entered, click 'Add' to save the principal details.
- The 'New principal' pop-up will disappear, and the details inserted as a row in the 'Principal' tab table.

Note that if you attempt to create a new principal entry with a 'Surname' and 'Given name(s)' combination that **already exists** in the database (regardless of what has been entered into the other fields), the following warning message will appear;



Warning! A duplicate observer name has been entered. This is not an invalid situation, and may be saved. Click 'Continue' to save this observer.

If you are unsure whether the principal you are entering is exactly the same person as the principal already stored in the BioNet Atlas database:

- Close the 'New principal' pop-up.
- Click 'Search' in the 'Principal' tab to review the details for the existing entry (or entries) with the same name.
- If you are certain that you need to create this new principal (either because it is a different person, or you are unsure if the existing entry is the same person), click 'Continue' to save the new principal entry.

Remove a principal

If you have added a principal in error:

1. Click 'Remove' to remove the principal from your list.
2. A pop-up window will appear. Note that this does not mean that you are deleting the principal from the database, simply that you are detaching the principal from your survey.
3. Click 'OK'. After you have added a principal to the 'Principal' tab, you are now ready to assign the survey to a dataset.

'Security' tab

The 'Security' tab is mandatory. Surveys captured within the 'Fauna surveys' module need to be attributed to a defined dataset. The dataset will determine the read/edit rights of the survey (as well as any associated sites, censuses, individual species records or data analysis sets) for individual users within each of the BioNet Atlas user types.

Fields marked with an asterisk (*) are mandatory.

General	Principal	Security	Publications	Censuses
Dataset* <input type="text" value="Lilly Pilly Surveys"/>				
Custodian Lilly Pilly Wildlife Conservancy				
Contact name Teresa Green				
Contact address 1 Eucalyptus Drive				
Contact phone 99999999				
Contact email teresa.green@wildflownursery.com.au				

Figure 16.10 'Security' tab of 'Fauna Survey Maintenance'

OEH officers: To ensure the correct access privileges are assigned to a survey:

1. Contact the [BioNet team](#) if you cannot identify an appropriate dataset before creating the survey within the BioNet Atlas database.
2. When you have chosen the appropriate dataset from the dropdown list provided, the details below the dropdown will populate. This provides information about the:
 - 'Custodian': the organisation or individual responsible for ensuring the accuracy, currency, storage, security and distribution of a dataset. The custodian is not necessarily the copyright holder, or the author of the data.
 - 'Contact name': the name of the designated contact for the data set. Any queries regarding surveys included within the dataset should be directed to the contact via one of the contact details provided (such as providing new users access rights to the survey's dataset).
 - 'Contact address'.
 - 'Contact phone'.
 - 'Contact email'.

Before you proceed to the next tab you should review these details to ensure they are correct. If you have any queries, contact the [BioNet team](#).

‘Publications’ tab

This tab is used to link a survey to a particular report. Note that it is not compulsory to link a survey to a report, but it is advisable where a report has been published. Publications may be added by one of two methods:

- Searching for an existing publication
- Creating a new publication.

Searching for an existing publication

If you have created a publication entry in the past or wish to search to see if anyone else has created an entry for a specific publication, you can search on existing publications:

1. Click 'Search'. A 'Search for publication' pop-up appears. Both fields contain searches.

New fauna survey 44:01 [Reset](#)

Fields marked with an asterisk (*) are mandatory. [Save](#) [New search](#)

[General](#) [Principal](#) [Security](#) [Publications](#) [Censuses](#)

[New](#) [Search](#)

[Close](#)

Search for publication

Title

Author(s) [Search](#)

Figure 16.11 Location of the Publications tab (top) and ‘Search for publication’ pop-up (below)

2. Enter part of the publication title and/or the author’s name.
3. Click ‘Search’. The results will be listed by Title, Author(s) and Year.
4. Click ‘Select’ if your publication is listed to add it to your publications list. You will then be returned to the ‘Publications’ tab where your publication should now be listed, along with the options ‘Review’ and ‘Remove’.
5. If no results are returned you will receive a ‘No bibliographies found ...’ message.
6. Click ‘Close’ at the top right of the pop-up. You will need to create a new publication.

Creating a new publication

1. Click ‘New’ to create new details for a publication. A ‘New publication’ pop-up will appear.
2. At a minimum you will need to enter the following:
 - ‘Title’

- 'Author(s)'
- 'Type of publication'
- 'Year of publication'.

Table 16.4 provides details on the fields and their limits.

Table 16.4 Description of the fields available in the 'New Publication' pop-up of the 'Fauna survey' page

Field	Description
Publication key	Automatically populated field. Will fill once publication is saved. This is for internal reference purposes.
Title*	Title of work which references the survey data (e.g. EIA, Plan of Management, research article). This is a free text field.
Author*	Please provide the name(s) of the author(s) in the format: Surname, First name/initial. For multiple authors please separate
Publisher name	Name of the publisher. This is a free text field.
Year of publication*	Restricted to four integers. Must be >1600.
Type of publication*	Select from the provided dropdown.
City of publication	Free text field.
Name of book	If the referenced work is from a journal or a book, please provide the title here. This is a free text field.
Name(s) of editor	If the referenced work is from a journal or a book, please provide the editor(s) here. Please follow the format used for author in this field.
Volume of publication	Free text field restricted to 30 characters.
Details of publication	Free text field.
Pages	Please enter the relevant page numbers for the referenced work, using a hyphen to denote 'to' e.g. 6 – 10. This is a free text field restricted to 40 characters.
Used in manuscript	Free text field restricted to 65 characters.
Keywords for article	Free text field.
Location	Free text field.
Comments	If you have any additional comments about the publication, please enter them here. This is a free text field.

3. When you have completed the publication details click 'Save'. The pop-up will close, and your new publication will appear in the 'Publications' tab with 'Review' and 'Remove' options.

'Censuses' tab

This screen appears much like the 'Census' tab on the 'Fauna survey' page, except at the top right of screen there is a greyed out 'New census' button. You need to save your survey before you can assign any censuses to it. For further details on how to add census data please refer to Section 16.2 Creating a new census.

16.1.2 Saving the survey data

1. Once you are happy with the details you have entered click 'Save'. The system will automatically screen the database to ensure duplicate survey names are not created. If you attempt to create a survey duplicate name, a pop-up will appear notifying you that the survey name is in use.
2. You will then be returned to the 'General' tab. If you attempt for the second time to create the same duplicate survey name a text warning will appear at the top left of screen stating, 'The selected survey name is already in use' and an asterisk will display next to the survey name field (*). You will not be able to successfully save your survey until you assign a valid and unique survey name.
3. If you have missed a required field or filled in a field incorrectly you will be notified with an error message(s) in red at the top left of screen. When you navigate to the tab in which the error occurs the erroneous field will be marked by a red asterisk (*), or in the case of the 'Principal' tab where you have failed to provide any details a text message in red asking you to provide details.

New fauna survey 59:48 [Reset](#)

Error! Please correct the error/s below:

- Survey code cannot be empty.
- Dataset cannot be empty.
- At least one principal must be provided.

Fields marked with an asterisk (*) are mandatory.

[Save](#) [New search](#)

General **Principal** Security Publications Censuses

Survey code* *

Survey description

Figure 16.12 Location of error messages in a 'new fauna survey'

4. Rectify any problems and click 'Save' again.
5. The error message(s) should disappear, and you should notice that the page title will change from 'New fauna survey' to 'Fauna survey maintenance'. If this does not happen, you will need to correct any remaining errors as flagged.
6. You will notice that your survey has been successfully saved by the appearance of your survey's name at the top left of screen. Once you have saved you may like to add censuses to your survey. This may be achieved by navigating to the 'Censuses' tab and clicking the now active 'New censuses' button. Note that the criteria section of the 'Censuses' tab search now has your survey's name in the Survey name text box, with no results returned (see Figure 16.13).

Fauna survey maintenance 59:50 [Reset timer](#)

Survey name - ROYALBS [Save](#) [Back to search](#)

Fields marked with an asterisk (*) are mandatory.

General **Principal** Security Publications **Censuses**

New census

Census key

Survey name

Site number

Census type

Census description

Sighting key

Location key

Census date

From date To date [Search](#)

No censuses found...

Figure 16.13 'No censuses' found result

16.2 Creating a new census

To contribute census data, you must have a survey to assign the data to and have write access to the dataset that the survey is saved to.

There are three methods for accessing the 'New fauna census' page:

- 'New census' hyperlink within the 'Survey' tab of the 'Fauna survey' page, while searching for a survey.
- 'New census' button within the 'Censuses' tab of the 'Fauna survey maintenance' page, while creating, or reviewing an existing survey.
- 'New census' button within header of the 'Fauna census maintenance' page.

Clicking any of these three will bring up a 'Select census type' pop-up. This consists of a dropdown box containing the various census types available in the 'Fauna surveys' module.

If you cannot view, or interact with these buttons, then you do not have the required level of access to the dataset that the survey is saved to. You will need to email the [BioNet team](#) nominating the survey which you wish to add data to. The custodian or principal of the survey will then need to approve the request for write access.

Once you have found your desired census type in the dropdown:

1. Click on it. The dropdown will disappear, and your nominated census type will appear in the box (see Figure 16.14).

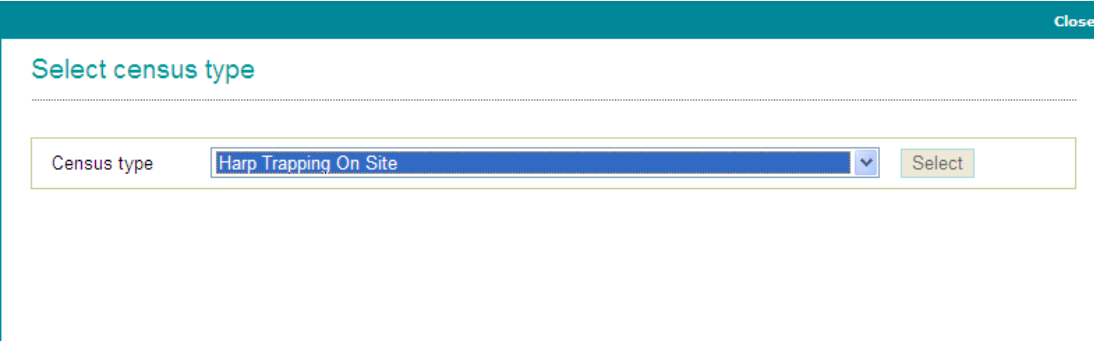


Figure 16.14 'Census type' in the dropdown box

You will note in the dropdown list that some Census types end with the term '(old type)' e.g. 'Predator scats (old type)'. Please do not select these census types to enter new details as they have been retired and only remain to accommodate old data.

2. Click 'Select'. You will then be directed to the 'Details' tab of the 'New fauna census' page. Depending on the census type you have chosen you will also notice between two and five tabs. These may include:
 - 'Details'
 - 'Site'
 - 'Start site'
 - 'End site'
 - 'Observer'
 - 'Target species'

- 'Records'.

The only two tabs that are standard across all census types are 'Details' and 'Records'. However, the appearance of both these tabs will differ depending on the census type chosen (see Appendix 3 for the tabs available for each census type). The tabs displaying subsequent to the 'Details' tab will only become active once you have completed the required data of the 'Details' tab.

3. Inactive tabs will be displayed on the 'New fauna census' page before saving a census (see Figure 16.15).

New fauna census

Survey name - [ROYALBS](#)

Fields marked with an asterisk (*) are mandatory.



Figure 16.15 Inactive tabs when entering a 'New fauna census'

4. Once you have successfully saved a census the page will refresh, and change to 'Fauna census maintenance', the inactive tabs will now be active (see Figure 16.16).

Fauna census maintenance

Survey name - [ROYALBS](#)

Fields marked with an asterisk (*) are mandatory.



Figure 16.16 Active tabs when entering a 'New fauna census'

16.2.1 'Details' tab

The appearance and fields available for data entry in the 'Details' tab will differ depending on your nominated census type. In some cases, the Items section at the base of this tab may not be populated with fields, instead the text 'No census items found...' will display. Other census types will display only one, two, or three items, rather than the five displayed here (see Figure 16.17).

Figure 16.17 Details of ‘New fauna census’

The census type you have chosen will dictate which of the fields on the ‘Details’ tab are active.

Table 16.5 lists the fields available at this tab and their restrictions.

Table 16.5 Description of all fields available at the ‘Details’ tab of the ‘Fauna census maintenance’ page

Section of the Details tab	Field	Field restrictions
General	Census type	Auto-populates on saving your census.
	Census key	Auto-populates on saving your census.
	Start date*	Select from the dropdown calendar, or enter manually, dd/mm/yyyy. Date entered must be ≤End date.
	End date*	Once a start date is entered this field automatically populates. To change it select a value from the dropdown calendar, or enter manually, dd/mm/yyyy. Date entered must be ≥Start date.
	Description	Free text field up to 80 characters.
	Notes	Free text field up to 500 characters. May be used for information such as the length and direction of a loop transect for transect spotlighting censuses (where the start and end site are the same) or the type of trap used for in a Pitfall trapping census e.g. ‘PVC pipe 50cm deep and 15cm wide’.
Other	Team No.	10 characters.
	Effort	<10, 000. Up to two decimal places.
	Effort units	Select from dropdown.
	No. of people	<100, 000. No decimals.
	Temp wet bulb (°C)	<10, 000. Up to two decimal places. Used in conjunction with Temp dry bulb to determine the humidity.

Section of the Details tab	Field	Field restrictions
	Temp dry bulb (°C)	<10, 000. Up to two decimal places. May be used in conjunction with Temp wet bulb to determine the humidity.
	Rainfall (mm)	<100, 000. No decimals. Please enter your value in mm.
	No. of traps	≤100.
	On foot	Select from dropdown.
	Sense level	The sensitivity setting for your recording equipment (radiotracking, ultrasound recorder). Free text field up to 40 characters.
	Detector no.	Free text field up to 20 characters.
	Recorder/Laptop no.	Free text field up to 20 characters.
	Tape no.	Free text field up to 20 characters.
Items	Recording frequency	Displays only for Acoustic recording and Bat ultrasound census types.
	Recording duration	Displays only for Acoustic recording and Bat ultrasound census types.
	Recording times of day	Displays only for Acoustic recording and Bat ultrasound census types. Nominate the time period over which the recording equipment was on. Select from dropdown.
	Identification method	Displays only for Acoustic recording and Bat ultrasound census types. Please nominate whether the bulk of calls identified for the census were identified: <ul style="list-style-type: none"> • Audio ID by person: manually by listening to each call • Automated ID by computer: automatically via a program • Visual ID by person: manually by visually assessing each call's signature.
	Sampling rate	Displays only for Acoustic recording and Bat ultrasound census types.
	Device type & model	Displays only for Acoustic recording and Bat ultrasound census types. Please select the make and model of the recording equipment used.
	Cloud cover type	Displays for Bat ultrasound, Diurnal bird, harp trapping off-site, harp trapping on site, nocturnal playbacks, site spotlighting, transect spotlighting. Select from dropdown.
	Wind direction type	Displays for Bat ultrasound, Diurnal bird, harp trapping off-site, harp trapping on site, nocturnal playbacks, site spotlighting, transect spotlighting. Select from dropdown. If your census type is 'Transect spotlight' you will also get a Value column. Accepts integers only.
	Wind speed type	Displays for Bat ultrasound, Diurnal bird, harp trapping off-site, harp trapping on site, nocturnal playbacks, site spotlighting, transect spotlighting. Select from dropdown.
	Rain type	Displays for Bat ultrasound, harp trapping off-site, harp trapping on site, nocturnal playbacks, nocturnal streamside, site spotlighting, transect spotlighting. Select from dropdown.

Section of the Details tab	Field	Field restrictions
	Moon type	Displays for Bat ultrasound, harp trapping off-site, harp trapping on site, nocturnal playbacks, site spotlighting, transect spotlighting. Select from dropdown.
	Spectrum	Displays only for Bat ultrasound census type. Nominate whether a full spectrum sampling method was used, or if the sampling spectrum was limited to zero crossing.
	Bait type	Displays for all baited trapping census types (i.e. Camera, Cage, Elliott, Hair tube and Pitfall). Select the bait used throughout the census from the dropdown provided.
	Camera type	Displays only for Camera trapping census type. Select whether the camera used employed infrared, or a white flash.
	Camera make & model	Displays only for Camera trapping census type. Select the make and model of the camera used throughout the census.
	Recording type	Displays only for Camera trapping census type.
	Video duration	Displays only for Camera trapping census type. Select the appropriate units and enter the duration of the video recording. Integers only.
	Delay settings	Displays only for Camera trapping census type. Specify the duration of the delay interval between trigger events. Select either minutes, or seconds from the dropdown and enter a value into the value column. Integers only.
	Shots per trigger	Displays only for Camera trapping census type. Select the Shots code from the dropdown and enter a value for the number of photographs taken per trigger event in the Value column. Integers only.
	Distance to lure	Displays only for Camera trapping census type. Select the appropriate units and enter the distance of the lure from the camera. Integers only.
	Set-up orientation	Displays only for Camera trapping census type. Defines the orientation of the camera set-up. Select the appropriate option from the dropdown provided.
	Lure height	Displays only for Camera trapping census type. The elevation of the lure from the ground. Select the units from the dropdown and enter the measurement in the value column. Integers only.
	Bait cage type	Displays only for Camera trapping census type. Select the appropriate bait housing from the dropdown provided.
	Rainfall	Displays for Nocturnal streamside only. Nominate the most appropriate description of the current rain conditions from the dropdown.
	Relative humidity	Displays only for reptile and amphibian censuses (i.e. Diurnal herpetofauna, nocturnal herpetofauna and Nocturnal streamside censuses). These censuses will also have Temp wet bulb and Temp dry bulb fields available in the Other section of the 'Details' tab. Select the appropriate units and enter measurement of the relative humidity in the value column of the table. Integers only.

* Indicates mandatory field

1. If you attempt to add erroneous values, or if you miss a required field you will receive an error message in red text at the top of your screen.
2. Depending on the census type chosen you will have various tabs available (see Appendix 3 for the tabs available for each census type). These will appear greyed out whenever you are viewing the 'New census' page.

- Once values are entered into the 'Details' tab, click 'Add census'.

16.2.2 'Site' tab

The 'Site' tab is a non-editable tab, displaying details of the 'Site' and 'Location', based on site and location data stored within BioNet Atlas. To populate this tab, you will need to either:

- Create a new site.
- Search for a pre-existing site.

Create a new site

- Click 'New'. This will direct you to a 'New site' page, with seven tabs (see Figure 16.18):
 - 'Site'
 - 'Location'
 - 'Disturbance'
 - 'Fire'
 - 'Weeds'
 - 'Strata'
 - 'Stream/water and morphology'

Figure 16.18 'New site' tab for a new census

A 'Site header' section is at the top of the 'New site' page. You will need to populate at least the 'Site number' and 'Recorded date' fields. The 'Entered by' field will auto-populate with the name of the person logged in at the time of data entry (i.e. you).

'Site' tab

Table 16.6 provides details on the fields available on the 'Site' tab of 'Site maintenance' page.

Table 16.6 Description of fields available at the 'Site' tab of the 'New site' page.

Section	Sub-section	Field	Description
Observer	–	Surname	

Section	Sub-section	Field	Description
		Given names	Give details on the person who carried out the site assessment. These are non-editable fields, which are automatically populated based on selection at the Search for observer pop-up. To add populate this section you will need to use the Search button and search the database for your observer.
		Address	
		City	
Site - attributes	Soil	Depth	Select from dropdown.
		Type	Select from dropdown.
	Geology	Actual type	Select from dropdown.
		Mapped type	Select from dropdown.
	Litter	Depth	Select from dropdown.
		Humus	Select from dropdown.
	Ground cover – projective cover (%)	Vegetation	Number <100.
		Log	Number <100.
		Rock	Number <100.
		Outcropping rock	Number <100.
		Soil	Number <100.
		Litter	Number <100.
	Percentage of trees/shrubs with characteristic	Large tree hollows	Select from dropdown.
		Mistletoe	Select from dropdown.
		Fruit canopy	Select from dropdown.
		Flowers canopy	Select from dropdown.
		Small tree hollows	Select from dropdown.
		Epiphytes	Select from dropdown.
		Fruit sub-canopy	Select from dropdown.
		Flowers sub-canopy	Select from dropdown.
	Projected foliage cover (%)	Acacias	Select from dropdown.
		Banksias	Select from dropdown.
		Allocasuarinas	Select from dropdown.
		Large stags	Stags present in a 20mx20m plot of the site. Select from dropdown.
		Dom. Shrub growth	Select from dropdown.
		Land tenure	Select from dropdown.

'Location' tab

You may add a location to your site by one of two methods:

- Searching on existing locations
- Creating a new location.

Searching for an existing location

Only use search if you know the location exists within the BioNet Atlas database. Preferably you will have created the location. If this is not the case please proceed straight to Creating a new location.

1. Select 'Search'. This will open a 'Search for locations' pop-up. You can search by either 'Location key' (see Table 16.7 for more information), or 'description'. The easiest criterion to search by is 'location key', as searching by a 'description' may yield hundreds of results (e.g. see Figure 16.19; search results using the term 'Park').

Location key	Description	
LAQF04051101	Black Rock Camping Area and Jerusalem Creek Fire Trail, Bundjalung National Park Specified Map No: 9539 Specified Reserve: Bundjalung NP	Select
6372-HO	Bobin Head road, Ku-ring-gai Chase National Park. Near North Turramurra Specified Map No: 9130 Specified Reserve: Ku-ring-gai Chase NP	Select
LMQS01032201	Ironbark lane Lower Hunter National Park Specified Map No: 9132-2-N Specified Reserve: Werakata NP	Select
LPXEI0012077	Specified Map No: 9441 Specified Reserve: Moore Park NR	Select
LPXEI0012294	Specified Map No: 9540 Specified Reserve: Victoria Park NR	Select
LPJGI0143318	Towarri National Park : on top of main plateau	Select
	Wollomi NP, Devlin Creek, Turbulla Creek, Approx 2.85km upstream of park boundary and Lot	

Figure 16.19 Location search using 'park'

2. Click 'Select' if you can identify the location you wish to add to your site. The pop-up will close, and the details of your nominated location will appear in the 'Location' tab.
3. Review these, and if they are as you expected you can navigate to the next tab or click 'Save'.
4. If the location you selected was not your desired location, you can either search again or create a new location.
5. The selected location will not be saved to the site until you click 'Save'.
6. Once you have clicked 'Save Site', the 'Site Maintenance' screen will close, and you will be returned to the 'Site' tab of the 'Fauna Census Maintenance' screen.

Creating a new location

1. Click 'New' at the far top right of screen within the 'Location' tab to add a new location. A 'New location' pop-up will appear.
2. Fill the fields as appropriate. Table 16.8 describes the attributes of the various fields with mandatory fields marked with an asterisk.

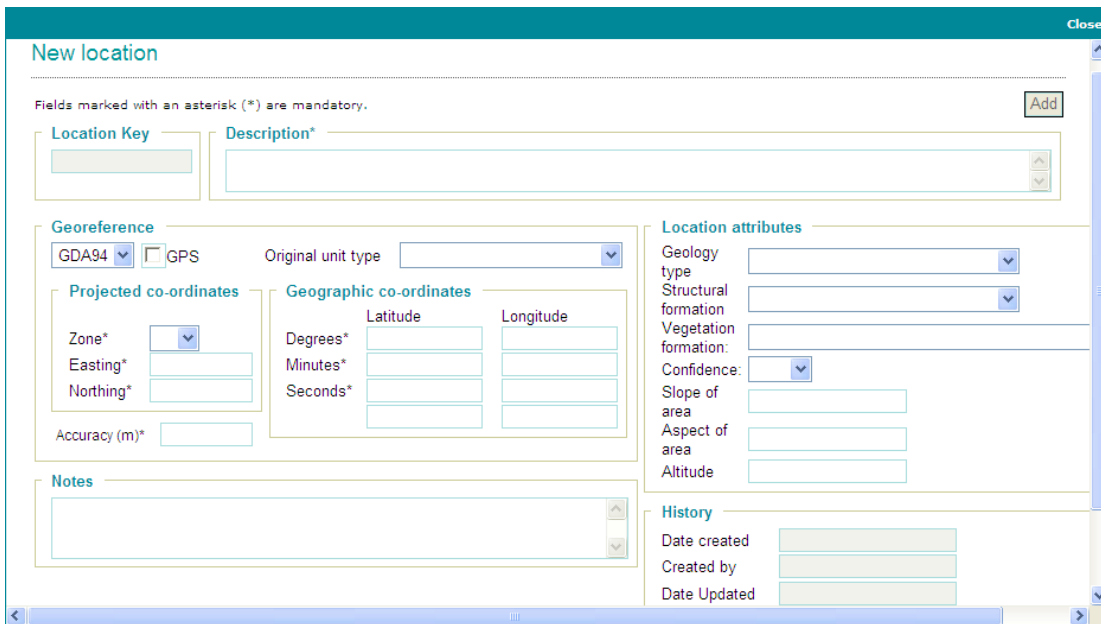


Figure 16.20 Create a 'New location' pop-up

Table 16.7 Descriptions of the fields used in the 'Locations' tab of the 'Site maintenance' page

Field	Description
Location key	Reference key used to store individual locations. This field will automatically populate on successful save. Please reference this number if you would like to use this location elsewhere in the BioNet Atlas application. For reference the Location key will usually appears in the form LXXXyymmddnn where: <ul style="list-style-type: none"> • L: stands for Location • XXX: represent the unique initials of the BioNet Atlas user account of the person responsible for creating the location • yymmdd: represent the date that the location was created e.g. a location created on 15th June 2009 will be displayed as 090615 • nn: sequential alphanumeric series based on the order of locations created by the same BioNet Atlas user on the same day. E.g. if a user with the initials AXD creates three locations on the 15th June 2009 then the first location will be LAXD09061500. The second location will be LAXD09061501 and the third location will be LAXD09061502.
Description*	Refers to a detailed description of the geographic location, such as place name, street, nearest cross-street, landmark or location within a reserve. Please give as much detail as possible.
Datum*	The Georeference box in the middle of the screen allows for entry of coordinates. A full set of coordinates need to be supplied in only one coordinate system; either the Projected Coordinate System (Zone, Easting and Northing) or the Geographic Coordinate System (Latitude and Longitude). Before you start entering the coordinates, ensure you know the Datum of the coordinates you are entering (as once you start typing in either coordinates type, the Original Unit type field will be populated appropriately depending on the selected Datum) The Datum is set to GDA94 by default. If the coordinates you are entering are in AGD66, please select AGD66 from the dropdown menu.
Coordinates*	Enter the coordinates in either Coordinate system; Projected Coordinate System with:

Field	Description
	<ul style="list-style-type: none"> • Zone – two digits <ul style="list-style-type: none"> • Easting – six digits • Northing – seven digits • Geographic Coordinate System (Latitude and Longitude). Note that you can either enter Latitude Longitude in: <ul style="list-style-type: none"> ○ Degrees, Minutes, Seconds ○ Decimal Degrees (entered in the Degrees box) ○ Degrees, decimal minutes. <p>Please note that Latitude must begin with a number between -40 and -20. Longitude must be a number between 138 and 162.</p>
GPS	If a GPS was used to obtain the coordinates, check the GPS checkbox. Otherwise, leave this field blank.
Accuracy*	<p>refers to how accurately the coordinates represent the exact location of the species (in metres). For example, a value of 100 would mean that the location is accurate to the nearest 100m.</p> <p>If you used a GPS the accuracy will have been displayed on-screen sometimes labelled as EPE (Estimated Positional Error).</p> <p>Enter a value, in metres.</p>
Original Unit Type	The coordinate system for which the values were entered is automatically populated in the Original Unit type field.
Geology	Select the main geology on site from the dropdown provided.
Structural formation	Structural formation classes based on crown separation & growth form characteristics (Specht et al, 1974) – (e.g. Alpine complex).
Vegetation formation	NSW Vegetation Formations (Keith, 2004) – (e.g. Closed sedgeland).
Confidence	Confidence in your assessment of vegetation formation. Select the appropriate confidence level from the provided dropdown.
Slope of area	Slope from the horizontal in degrees. Range is between 0 and 90. Integers only.
Aspect of area	Integers only (in degrees), starting from 0 as North and then going in a clockwise direction. Range is between 0 and 90.
Altitude	Vertical height (in metres). Range is ≥ 0 to <2500 . Integers only.
Notes	Enter any additional notes regarding the location that are not relevant to existing fields, or that do not fit within the existing fields (e.g. secondary geology).

3. Click on the 'Add' button at the top right of screen, once you have finished entering the location details to save the location.
4. The 'New location' pop-up will disappear and the values you entered will be stored in the 'Location' tab. Please be aware that the system will display coordinates in GDA94 by default. If you have entered your coordinates in AGD66 and notice they have been altered once you save them, please remember this transformation. The original unit type should reflect the original coordinates system used to enter the data.
5. If you intend to use the location for another module of the BioNet Atlas database ('Species sightings', or 'Flora surveys'), note the 'Location key' that is generated, as this is unique for this particular location (i.e. all the data entered at this tab).

Site maintenance 58:39 [Reset timer](#)

Fields marked with an asterisk (*) are mandatory. [Save site](#) [Back to census](#)

Site header

Site number* Recorded date*
 Team number Entered by

Site | **Location*** | Disturbance | Fire | Weeds | Strata | Stream/water & morphology

[Review](#) | [New](#) | [Search](#)

Location Key **Description**

Georeference

GDA94 WGS84 Original unit type

Projected co-ordinates

Zone Easting Northing Accuracy (m)

Geographic co-ordinates

Degrees Minutes Seconds Latitude Longitude

Location attributes

Geology type
 Structural formation
 Vegetation formation
 Confidence
 Slope of area
 Aspect of area
 Altitude

Notes

History

Date created
 Created by
 Date Updated
 Updated by

Calculated Area(s)

Layer Type	Area Name
LGA	SUTHERLAND SHIRE
Reserve	Royal NP
Mapsheet Number	9129 - PORT HACKING
Mapsheet Number	9129-4-S - OTFORD
CMA	Sydney Metro
CMA Subregion	Sydney Metro - Sydney Cataract

Figure 16.21 'Location' tab of the 'Site maintenance' page

In addition to the values you previously entered, please note that there are three additional sections on the 'Location' tab that were not present in the 'New Location' pop-up:

1. The StreetMap icon in the Geographic coordinates box. Clicking on this opens a pop-up map displaying your coordinates on a map. It is good practice to check this after you have entered your coordinates to confirm they are in the correct location.
2. The 'History' section now contains your name, and the date and time the location was created. These details will be duplicated in the Date created/Created by and the Date Updated/Updated by fields for new records. If the record is later modified, then the 'Date Updated'/'Updated by' fields will be changed to reflect the update.
3. The 'Calculated Area(s)' box lists all the spatial layers that are referenced via BioNet Atlas (i.e. the Layer Type) and the corresponding locality (i.e. Area Name) that your location falls within.

'Disturbance' tab

The 'Disturbance' tab is used to record details for any disturbance regimes noted at your site. These details may be entered by populating the table using the dropdowns provided. Details about each of the fields may be found in Table 16.8.

Table 16.8 Description of the fields available in the 'Disturbance' tab of the 'Site maintenance' page

Field	Description
Date recorded*	Date disturbance was observed. Either select from calendar or enter as dd/mm/yyyy.
Disturbance type*	Select from dropdown. Please note that the Fire and Weed disturbances have their own tabs for entering this data.
Severity	Select from dropdown.
Time since last	An estimate of the time elapsed since the disturbance in question. This is relevant for disturbance types such as fire, where the disturbance occurred in the past and

Field	Description
	has been identified from its effects. It is not relevant for disturbances that are ongoing, such as weeds.
Accuracy	An indication of the accuracy of the estimate of the time since the last disturbance.
Observation	Any extra notes about the disturbance observed. Free text field.

* Indicates mandatory field

1. As you add more disturbances the listing at the top of the table will update accordingly.
2. Once you exceed 10 rows a second page of results will generate, with any new data appearing here, rather than on the first page. You will still be able to add data on the first page. You can navigate to the second page of data by using the page number listings above the table:
3. The last row of the second (and any subsequent pages) will be blank, allowing for further data entry.

'Fire' tab

The 'Fire' tab is used to record fire specific disturbance data. Similar to the 'Disturbance' tab it is primarily populated via dropdowns. Table 16.9 provides further information about the fields available in the tab.

Table 16.9 Description of the fields available in the 'Fire' tab of the 'Site maintenance' page

Field	Description
Date recorded*	Date disturbance was observed. Either select from calendar or enter as dd/mm/yyyy.
Severity	Select from dropdown.
Canopy	Select from dropdown.
Understorey	Select from dropdown.
Groundcover	Select from dropdown.
Time since last	An estimate of the time elapsed since the last fire.
Accuracy	An indication of the accuracy of the estimate of the time since the last fire.
Observation	Any extra notes about the disturbance observed. Free text field.

* mandatory fields if you have attempted to enter data in to this tab.

'Weeds' tab

The 'Weeds' tab is used for recording weeds specific disturbance data. Similar to the 'Disturbance' tab it is primarily populated via dropdowns. Table 16.10 provides further information about the fields available in the tab.

Table 16.10 Description of the fields available in the 'Weeds' tab of the 'Site maintenance' page

Field	Description
Date recorded*	Date disturbance was observed. Either select from calendar or enter as dd/mm/yyyy.

Field	Description
Severity	Select from dropdown.
Weed type	Select from dropdown.
% weed cover	Percent of weed coverage on site. Number ≤ 100 .
Time since last	Free text field (high limit).
Accuracy	Free text field (high limit).
Observation	Any extra notes about the disturbance observed. Free text field.

* required fields if you have attempted to enter data in to this tab.

‘Strata’ tab

The ‘Strata’ tab allows for the entry of data regarding the various strata at your site. Data may be entered by populating the table present. Table 16.11 provides further information about the fields available in the tab.

Table 16.11 Description of the fields available in the ‘Strata’ tab of the ‘Site maintenance’ page

Field	Description
Strata type*	‘Stratum (plural Strata) is a major horizontal structural division of a stand of vegetation’ (Sivertsen, D. 2009). Select from dropdown.
Percent cover	Percent cover of the nominated stratum. Field accepts numbers <100, up to one decimal place permitted.
Height range	Select from dropdown.
Composition	Select from dropdown.
Senescent	Select from dropdown.
Mature	Select from dropdown.
Regeneration	Select from dropdown.

* required fields if you have attempted to enter data in to this tab.

1. As you add more strata the listing at the top of the table will update accordingly.
2. Once you exceed 10 rows a second page of results will generate, with any new data appearing here, rather than on the first page. You will still be able to add data on the first page. You can navigate to the second page of data by using the page number listings above the table.
3. The last row on any page will be blank, allowing for further data entry.

‘Stream/water and morphology’ tab

The ‘Stream/water and morphology’ tab captures details about water bodies and the site morphology. Table 16.12 provides further information about the fields available in the tab.

Table 16.12 Descriptions of the fields available in the ‘Streamwater and morphology’ tab of the ‘Site maintenance’ page

Sub-section	Fields	Mode of data entry
Stream	Order	Select from dropdown.
	Width	Select from dropdown.
Water	Movement	Select from dropdown. If no water was present on site, please select ‘Absent’.
	Body	Select from dropdown. If no water was present on site, please select ‘Absent’.
	Colour	Select from dropdown. If no water was present on site, please select ‘Absent’.
Morphology	Morphology	Select from dropdown.
Stream substrate	Stream substrate	Click checkbox for one or more items.
Riparian vegetation	Riparian vegetation	Click checkbox for one or more items.
Fringing vegetation	Fringing vegetation	Click checkbox for one or more items.
Morphology elements	Morphology elements	Click checkbox for one or more items.

Saving your site

1. Click ‘Save site’ when you are done adding all the necessary data to the tabs. You will be returned to the ‘Fauna census maintenance’ page and your site’s location details will appear in the ‘Site’ tab.
2. If your site number already exists in the database, then you will receive a message that says ‘Error! Could not insert site data’. In this instance you may like to do one of the following:
 - Search on the Site, at the ‘Site’ tab of the ‘Fauna census maintenance’ page (See Section 16.2.2 Site tab) to see if it is the same site you are attempting to add. Please note, however, that if the Site has been linked to another survey which is stored in a dataset you do not have access to then you will not be able to save any changes you might make to the site. Further to this, if you use a site somebody else has set up then you will lock that person out of making any changes to their site. For this reason, it is best to only use sites that you have created, or that you were aware of prior to data entry.
 - If, after reviewing the Site’s details, you determine that your site is unique, you will need to enter another site number to effectively save your site.

If you have made any errors while submitting data or missed a required field for data entry you will receive an error message notifying you of the omission. Rectify these before proceeding with your save.

Searching for a pre-existing site

Only conduct a site search if you know the site you intend to use. Do not use existing sites which you have no previous knowledge of.

Existing sites are very likely to be linked to another survey stored in a dataset you do not have write access to. Consequently, you will not be able to save any changes you might make to the site, nor will the person who initially established the site in the BioNet Atlas database.

For this reason, it is best to only use sites that you, or someone within your organisation, created.

1. Click 'Search' to search for an existing site. This will open a 'Search for site' pop-up (see Figure 16.22).

Search for site

Close

Fields marked with an asterisk (*) are mandatory.

Site no.* Location key*

Description

Figure 16.22 'Search for a site' pop-up

2. You can search using the following criteria:
 - 'Site no.': The unique identifier of a site. Limited to 40 alphanumeric characters, dash (-) and underscore (_).
 - 'Location key': Unique identifier of a location. Restricted to 12 alphanumeric characters, dash (-) and underscore (_). Values for this field usually begin with an L.
 - 'Description': free text field.
3. Results will be returned in a table with a brief description of the location of the site (see Figure 16.23). If more than 100 results are returned for your search criteria you can use the page links at the top of your table to navigate to subsequent pages. If more than five pages are returned use the ellipsis (...) to navigate to the next five pages (e.g. pages 6 – 10) of your results.

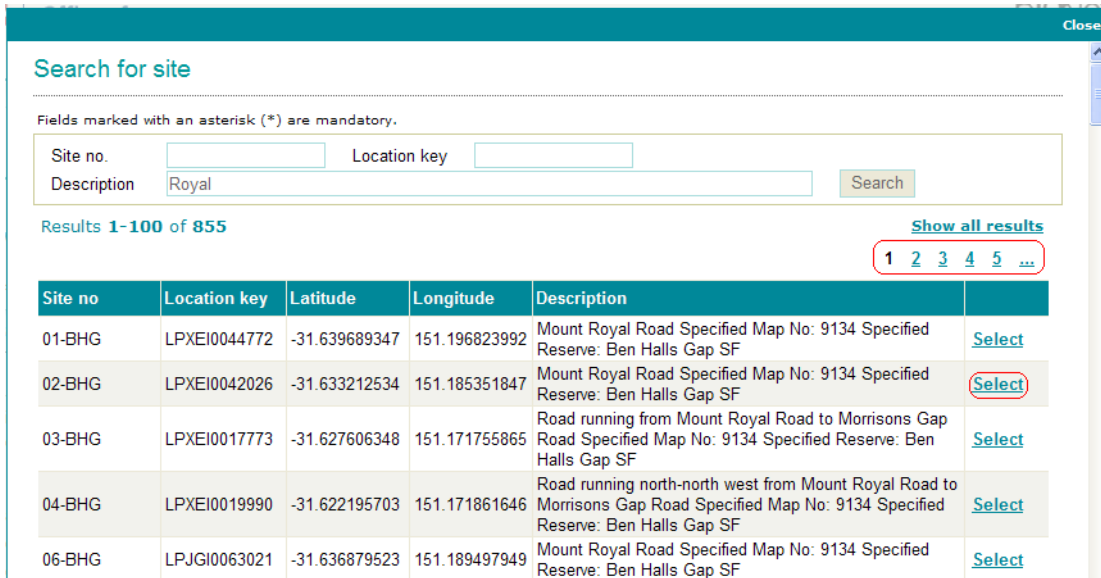


Figure 16.23 Results page of a site search

4. Click 'Select' once you have identified the site you wish to use. If you are uncertain of the sites on your list it is best to create a new site, as altering any site details will have implications for censuses within either the 'Fauna surveys' module or the 'Flora surveys' module.
5. After clicking 'Select', the pop-up will close, and you will be returned to the 'Site' tab of the 'Fauna census maintenance' page.
6. If you are still not certain that the 'Site' you have chosen is correct, click 'Review' to navigate to the 'Site maintenance' page. Here you will be able to review more comprehensive details on the site, such as when the site assessment was conducted and who entered the site data. Further details on the tabs and the respective fields may be found in Section 16.2.2: 'Site' tab.
7. Use the 'Back to census' button at the top right of screen to return to the 'Fauna census maintenance' page, once you have finished reviewing the site details.
8. If the site you selected was incorrect you may wish to search for another site or create a new site.
9. If the details were correct, then proceed to the next tab available for your nominated census type.

16.2.3 'Start site' tab

This tab only displays when the 'Transect spotlighting' census type has been chosen. Enter details regarding the start point of your transect in this tab.

See Section 16.2.2 Site tab for details on how to enter and edit data in the 'Start site' tab.

16.2.4 'End site' tab

This tab only displays when the 'Transect spotlighting' census type has been chosen. Enter details regarding the end point of your transect in this tab.

See Section 16.2.2 Site tab for details on how to enter and edit data in the 'End site' tab.

16.2.5 'Observer' tab

The 'Observer' tab is used to identify the people who conducted the census. Their names will be stored against any sighting data captured within the census (see Figure 16.24).

Fauna census maintenance 38:52 [Reset time](#)

Survey name - ROYALBS [Back to search](#) [New census](#)

Fields marked with an asterisk (*) are mandatory.

[Details](#) [Site](#) **Observer** [Target species](#) [Records](#)

[New](#) [Search](#)

No observers selected...

Figure 16.24 'Observer' tab when adding a new census

Background to Observer/Principal/Recorder data in the BioNet Atlas database

The BioNet Atlas database contains one table that stores the contact details for individuals linked to sightings or surveys within the constituent modules (i.e. 'Species Sightings', 'Fauna surveys', 'Flora surveys').

These individuals are referred to differently depending on the module being viewed.

'SpeciesSightings' module – Observers

'Fauna surveys' module – Principal and Observer

'Flora surveys' module – Principal and Recorder

The differing nomenclature represents the different role each type plays in the respective module.

'Observer': This individual has observed a particular species or been responsible for conducting a census within a survey.

'Principal': This individual is the primary person responsible for a survey.

'Recorder': This individual has recorded the details for a vegetation survey replicate.

As all three individual types are linked, searching within a Search for Principal/Recorder/Observer pop-up will return results for individuals within any of the three categories. For this reason, care must be taken when editing data about an observer as the person you are editing the data of may be used elsewhere in the BioNet Atlas database.

At least one observer must be entered, but you may add as many observers as you need. Observers may be added by one of two methods:

- Using the 'Search' button
- Using the 'New' button.

Searching for an observer

1. Click 'Search' to bring up the 'Search for observer' pop-up.
2. Type in all (or part) of the surname and/or given name.
3. Two search fields will display:
 - 'Surname'
 - 'Given name(s)'.

- Both of these are **contain** searches. So, for example, searching on 'Surname' 'Green' and 'Given name(s)' 'Ter' will return all names that **contain** both values.

Figure 16.25 shows some people who are entered by surname and first initial(s) only, so if you cannot find someone by their full name it is worth checking they are not in the system in an abbreviated form. Their identity may be confirmed by reviewing their details (using the 'i' button).

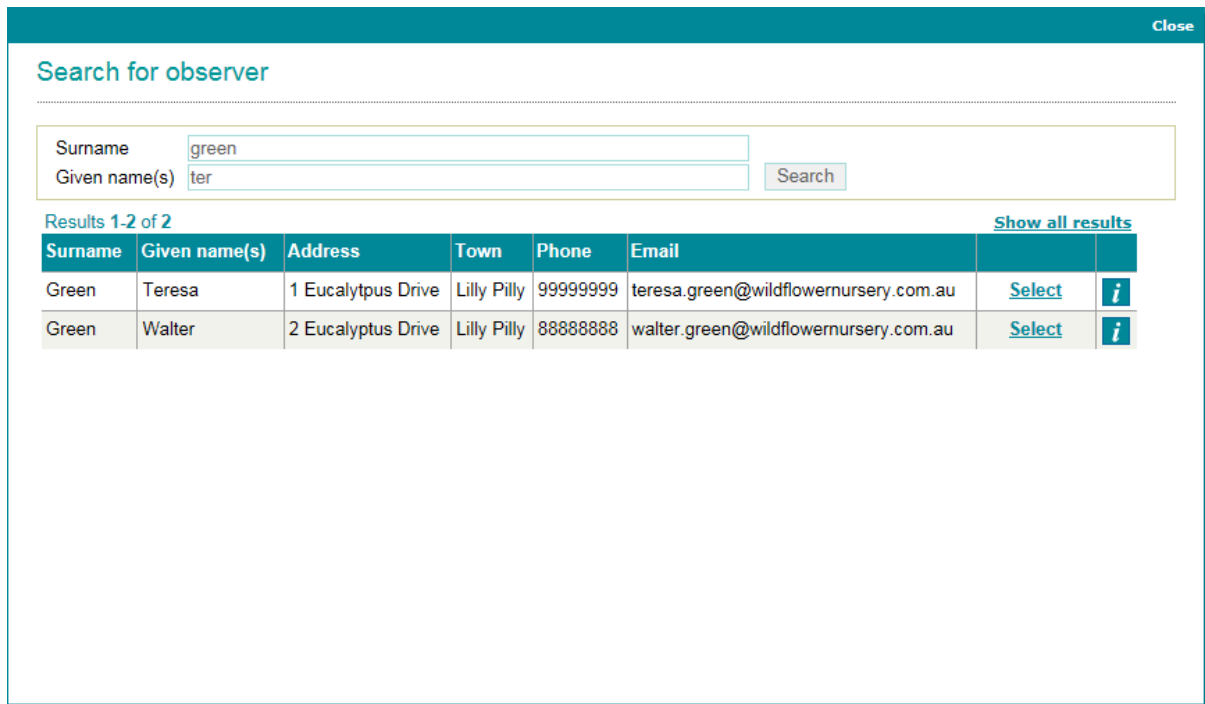


Figure 16.25 'Search for observer' results page

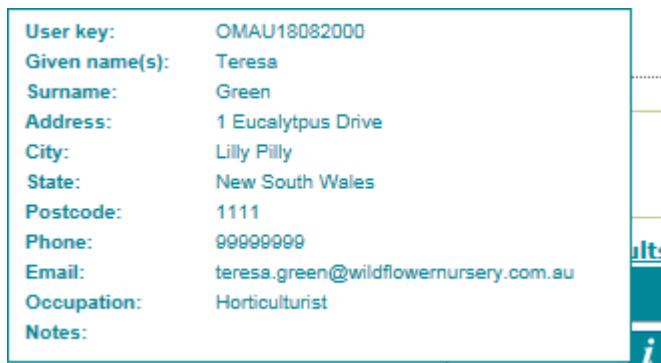


Figure 16.26 Detailed information for an observer

- If the contact details, or name (e.g. from marriage, or divorce) has altered, then please contact the BioNet team to have the details updated. If all the details for the observer are correct, then add the observer to your observer table.
- Click 'Select' to add an observer to your observer table. This will return you to the 'Fauna census maintenance' page. Your observer table will be populated with your selected observer.

Create a new observer

1. Click on the 'New' button. A 'New observer' pop-up will appear (see Figure 16.27). Table 16.13 lists descriptions and required formats for each of the fields in the 'New Observer' pop-up.

Figure 16.27 'New observer' pop-up

Note that although the 'Surname' is the only mandatory field, ensure you enter as many details as possible. This both avoids duplicate observer entries being created in future and also assists other OEH staff being able to contact observers in future, should further details regarding sightings or censuses be required.

Table 16.13 Description of the fields available in the ‘Observer’ tab of the ‘Census maintenance’ page

Section	Field	Description	Format
Observer identification	Observer key	A code automatically assigned to each observer entered.	N/A Auto-populated, protected from edits.
	Surname*	–	Free text, up to 60 characters.
	Given names	–	Free text, up to 60 characters.
	Occupation	–	Free text, up to 40 characters.
	Notes	Any additional notes regarding the observer, such as experience with species identification, qualifications and alternate mailing address etc.	Free text, up to 500 characters.
Contact details	Address	–	Free text, up to 50 characters per line.
	Town	–	Free text, up to 30 characters.
	State	–	Select from dropdown list.
	Postcode	–	Integer, 4 digits.
	Email	–	Free text, up to 75 characters.
	Phone type	The type of contact number, as listed in the dropdown list. Note that details can be stored for multiple phone types.	Select from dropdown list.
	Phone number**	–	Free text, up to 30 characters.
History	Date created	The date the observer record was first entered into the database.	N/A Auto-populated, protected from edits.
	Created by	The name of the OEH officer who entered the observer record.	N/A Auto-populated, protected from edits.
	Date updated	If edits have been made to the observer record since it was originally entered, the date that the record was last re-saved.	N/A Auto-populated, protected from edits.
	Updated by	The name of the OEH officer who edited / re-saved the observer record.	N/A Auto-populated, protected from edits.

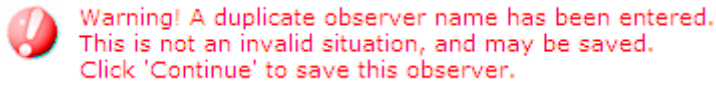
* Indicates mandatory field

** After adding the phone number for each phone type, always click on the 'Add' link (located to the right of the Phone number field) to save the details of each Contact number. Clicking on the 'Add' button (located in the top right corner of the Observer pop-up), without first clicking on the 'Add' link, will result in the last entered phone number not being saved.

2. Once all observer contact details have been entered, click on ‘Add’ to save the observer details.

3. The 'New observer' pop-up will disappear, and the details will be inserted as a line in the 'Observer(s)' tab.

Note that if you attempt to create a new observer entry with a 'Surname' and 'Given name(s)', that already exist in the database (regardless of what has been entered into the other fields), the following warning message will appear:



4. If you are unsure whether the observer you are entering is exactly the same person as the observer details already created in the BioNet Atlas:
 - o Close the 'New observer' pop-up.
 - o Click on the 'Search' button in the 'Observer' tab to review the details for the existing entry (or entries) with the same name.
5. If you are certain that you need to create this new observer (either because it is a different person, or you are unsure if the existing entry is the same person), click on the 'Continue' button to save the new observer entry.

16.2.6 'Target species' tab

This tab will only appear if you have nominated the 'Nocturnal Playbacks' census type at the 'Select census type' pop-up (see Figure 16.28).

Fauna census maintenance 59:55 [Reset timer](#)

Survey name - ROYALBS [Back to search](#) [New census](#)

Fields marked with an asterisk (*) are mandatory.

[Details](#)
[Site](#)
[Observer](#)
[Target species](#)
[Records](#)

No call playbacks found...

Playback order	Species code	Scientific name	Common name	Playback time (mins)	Listen time (mins)	
1		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

Figure 16.28 'Target species' tab

1. The 'Target species' tab is used to record the species used in the call playbacks.
2. Details will be presented in a table. As you are creating a new census, the tab will initially display 'No call playbacks found...'.
 3. To add new species, click in either the 'Scientific name', or 'Common name' column and begin typing text.
4. As you type a dropdown list will appear displaying species that match the criteria being entered.
5. You will need to select your species from the list using your mouse to ensure your data is correctly added to the system. If you just type in the species name and then navigate out of the field, it will clear of all data. The image below shows what a correctly selected data entry looks like:

If you entered data into the 'Scientific name' field, the 'Species code' and 'Common name' fields will automatically populate based on your selection (if appropriate). Likewise, if you entered data in to either the 'Species code' or 'Common name' fields then the remaining fields would populate accordingly.

6. As the playback order field is automatically populated please ensure you add your species in the order that they were played during the census.
7. If you began the census with an initial period of listening, then you may include this in your table by typing 'Initial period' in to the 'Scientific name' column.
8. If you ended your census with a period of inactivity, beyond your final 'Listen time', you may like to include this in your table by adding the term 'Final period' in the 'Scientific name' column.

Table 16.14 gives further details on the fields contained within the table.

Table 16.14 Description of the fields available in the 'Target species' tab of the 'Census maintenance' page

Field	Description
Playback order	The order in which the calls were played over the course of the census. This field is automatically populated.
Species code	The numeric code used for the nominated species. This code is unique to each species. Coding lists and nomenclature may be found in the Census of Australian Vertebrate Species . If you had an initial listening period you can add this by entering 0000. If you had a final listening period, with no call playbacks, you can enter this by typing 9999.
Scientific name	The scientific name of the species used during call playback. Please select the species from the dropdown menu. If you enter data in to the common name field this will automatically populate. If you had an initial listening period you can add this by entering 'Initial period'. If you had a final listening period, with no call playbacks, you can enter this by typing 'Final period'.
Common name	The common name of the species used during call playback. Please select the species from the dropdown menu. If you enter data in to the scientific name field this will automatically populate (if a common name exists). Please take care when using this field as your data entry field and always check the scientific name to ensure that the scientific name matches that of the species you intended to enter.
Playback time (mins)	The time that the call was played during the census (in minutes). Numbers only <100, up to two decimal places.
Listen time (mins)	The time spent listening to a response from the call during the census (in minutes). Numbers only <100, up to two decimal places.

9. Click 'Add' once you are happy with the details you have entered for a call. The page will refresh, and your table will now have a record stored. This will be reflected in the table displayed in the tab (see Figure 16.29).
10. Also, instead of 'Add', you now have two options at the end of the table: 'Review' and 'Remove' (see Figure 16.29):
 - 'Add' further rows until you have completed your call list for the census.
 - If you make a mistake at any point, use the 'Review' or 'Remove' links as appropriate.

Survey name - ROYALBS

[Back to search](#) [New census](#)

Fields marked with an asterisk (*) are mandatory.

[Details](#) [Site](#) [Observer](#) **Target species** [Records](#)

Order	Species code	Scientific name	Common name	Playback time (mins)	Listen time (mins)	
1	0248	Ninox strenua	Powerful Owl			Review Remove
2		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

Figure 16.29 New 'target species' added

Review a call

- Click 'Review' in the relevant row. Three changes will appear in your table:
 - The last row in your table will disappear (i.e. the row displaying the 'Add' option).
 - The fields will become writeable.
 - The last column in your selected row will change from displaying 'Review' and 'Remove' to 'Update' and 'Cancel'.
- Alter the details of your record as appropriate and click 'Update'. Your table will revert to its view before you clicked 'Review', however, your new values will be stored.
- Click 'Cancel' if you have clicked in the wrong row or decide you do not need to change any details.
- Your table will revert to its view before you clicked 'Review', with the original data retained.

Remove a call

- Click 'Remove' in the row you wish to have removed from your table. A pop-up will appear on-screen confirming that you wish to remove the target species.
- Click 'OK'. Your species will be removed from the table.

Note that if you remove a call from the middle of a table you will need to adjust the Order number of any subsequent calls so that they are sequential.

For example, If I have accidentally added a Swamp wallaby to my call list and need to remove it, but I have a Barking owl record listed after the wallaby my order appears as follows:

Order	Species code	Scientific name	Common name	Playback time (mins)	Listen time (mins)	
1	0248	Ninox strenua	Powerful Owl			Review Remove
2	1242	Wallabia bicolor	Swamp Wallaby			Review Remove
3	0246	Ninox connivens	Barking Owl			Review Remove
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

Removing the Swamp Wallaby record gives a table with the following details:

Order	Species code	Scientific name	Common name	Playback time (mins)	Listen time (mins)	
1	0248	Ninox strenua	Powerful Owl			Review Remove
2	0246	Ninox connivens	Barking Owl			Review Remove
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Add

To ensure that the call order is correct I will also need to 'Remove' the Barking owl row and re-enter it.

The Order column is only editable in new rows. Once you have added a row to the table its order is locked.

3. Click 'Cancel' if you accidentally clicked on 'Remove'. Your table will revert to its view before you clicked 'Remove', with your original values retained.

16.2.7 'Records' tab

1. Click on the 'Records' tab. The 'Records' tab initially displays with the text 'No sightings found...'

The 'New' button at the top right of screen is for creating New sightings. When you have first navigated to the 'Records' tab you do not need to use this button. The only time this button need be used is if you are reviewing an existing record and then wish to create a new one. Otherwise the sub-tab(s) will default to new data entry mode, provided you have data entry rights to the dataset that the survey is saved to.

2. For a new census the text 'No sightings found' will display immediately beneath the 'Records' tab.
3. Below this text up to three sub-tabs will display – depending on your elected census type:
 - 'Observer'
 - 'Location'
 - 'Sighting' (always displays).

If you are entering records for a technique type with a link between primary sighting records and dependent sighting records such as the **Predator scat census type**, the **Myrtle rust census type** or the **Koala SAT Survey census type**, please ensure you enter the details for your **primary species first**, using the instructions below. In order to enter any dependent species record it needs to be linked to a primary sighting record. This can only be done once the primary sighting record exists.

'Observer'

To add an observer (either by searching on an existing observer, or creating a new entry), refer to Section 16.2.5 Observer tab.

'Location'

To link your record to a location you can either create a new location, or search for an existing location. For information on how to do either please refer to Section 16.2.2 Site tab.

'Sighting'

The 'Sighting' sub-tab is used to enter any species data recorded during your census. The data entered within this sub-tab, along with the observer (from either the 'Observer' tab, or 'Observer' sub-tab) and location details (from either the 'Location' tab of the 'Site' page, or 'Location' sub-tab) will form a sighting record within the BioNet Atlas database.

1. Click on the 'Sighting' sub-tab. There are two slightly different versions of the 'Sighting' sub-tab depending on whether you enter a flora or a fauna sighting. The 'Sighting' sub-tab defaults to the FAUNA sighting option (see Figure 16.30).

Figure 16.30 Fauna options on the 'Sighting' sub-tab


If your elected census type is Opportunistic on site or opportunistic off-site then you may have some flora species to enter; details about entering flora species are in Part C. If you are entering data for a myrtle rust record, or another fungal species, you will need to enter these as a flora sighting.

Enter details for a FAUNA sighting

Table 16.15 lists descriptions and required formats for each of the fields in the 'Sighting' sub-tab (specific to fauna). Mandatory fields are marked with an asterisk.

Table 16.15 Description of the fields available in the 'Sighting' sub-tab for fauna

Tab section	Field	Description	Format
Key	Sighting key	A unique code automatically assigned to each sighting.	N/A Auto-populated, protected from edits.
Census type specific	Time responding	This option will only appear if you are entering data for a Nocturnal playback census.	Select from dropdown
	Is within boundary?	Identify whether the species was calling from within the site's boundaries, or off-site.	Select from dropdown
	Trap No.	This option will only appear for trapping census types. If you used multiple traps at the one site, then please enter the Trap number that the species was captured in to this field.	Free text field – to five characters.
Add sighting	Sighting type*	The 'fauna' radio button is selected by default.	Radio button selection.
	First Date*	The date the species was recorded.	dd/mm/yyyy,

Tab section	Field	Description	Format
		<p>You can enter the date by selecting it from the calendar pop-up or typing the date in the format dd/mm/yyyy.</p> 	> 01/01/1770. The value must be ≤ Last date of the sighting and ≥ the Start date of the census.
	Time	The specific time the species was recorded.	hh:mm:ss. In conjunction with the date, this value must be ≤ Last date of the sighting and ≥ the Start date of the census.
	Last Date	<p>Note that once the 'First Date' field has been entered, the 'Last Date' field will automatically be populated with the same value.</p> <p>For species recorded over a period of time (e.g. during a survey conducted over a week, or where an approximate date was given), change the 'Last Date'.</p>	dd/mm/yyyy The value must be ≥ First date of the sighting and ≤ End date of the census.
	Time	The specific time the species was recorded.	hh:mm:ss. In conjunction with the date, this value must be ≥ First date of the sighting and ≤ End date of the census.
<p>When entering the species name, you only need to enter one of the three available fields (i.e. 'Common name' or 'Scientific name' or 'Fauna code') and the database will automatically populate the other fields.</p>			
	Common name*	<p>The common name by which the species is known.</p> <p>Type in all or part of the 'Common name' (e.g. 'Cockatoo') and a selection of common names that contain the word 'Cockatoo' anywhere in the name will display in the dropdown box.</p> <p>Scroll down through the list to select the appropriate name.</p> <p>Note that not all species will have a common name assigned in BioNet Atlas.</p>	Type in all, or part, of the name and select from the dropdown list.
	Scientific name*	The scientific name by which the species is known.	Type in all, or part of the beginning,

Tab section	Field	Description	Format
		Type in all or part of the beginning of the 'Scientific name'. Note that the dropdown list will only display a selection of those scientific names that begin with the values entered. Scroll down to select the appropriate species.	of the name and select from the dropdown list.
	Fauna Code*	<p>A unique code attributed to an individual species, genus or family.</p> <p>The BioNet Atlas stores the taxonomic details of many species, each assigned a unique code. Fauna codes are stored within library files in the BioNet Atlas known as CAVS. To enter a record into the BioNet Atlas, a unique species code for that species must already exist in the BioNet Atlas database.</p> <p>Taxonomic information for fauna species are taken from the Census of Australian Vertebrate Species (CAVS), which is maintained by the Australian Biological Resources Study (ABRS) as part of the Department of Sustainability, Environment, Water, Population and Communities (SEWPC). Sometimes a code is not readily available, such as for invertebrates, or when a species is in the process of being formally described, or when ABRS have yet to assign a code. In all these cases the BioNet team will need to create a temporary code (usually starting with a letter such as T or I).</p> <p>Generally, you would only enter the code if you know it. In most cases you would select the species by either Scientific name or Common name and allow the database to automatically populate the Fauna code.</p>	Unique letter/number (see CAVS list).
	Population	<p>Whether the species is part of an Endangered Population (as listed under the BSC Act). You will not be able to fill in this field, it will be automatically populated (if applicable) once you save the record.</p> <p>The BioNet team maintain a shapefile of species specific endangered population boundaries, based on the descriptions in the Final Determinations from the Scientific Committee. This shapefile is updated at the time of gazettal.</p> <p>On saving your record, the database cross-references the coordinates and species name against this shapefile. If your record falls within the boundary of an endangered population for that specific species, the relevant endangered population code will be populated in this field on saving. You could then re-open your sighting and view the endangered population code in the Population field.</p>	N/A Auto-populated, protected from edits.
	Observation*	<p>For fauna only.</p> <p>Refers to how the species was observed (e.g. observed, heard, scat). This field is populated as</p>	Select from dropdown list.

Tab section	Field	Description	Format
		'observed' by default (being the most common observation type). If appropriate, select a different observation type. If more than one observation type was recorded, select the most reliable observation type here and enter additional values in the 'Notes' field.	
	Source*	Source distinguishes standard sightings from those held at public or private collections. The default value for this field is set to 'Sighting only'. You only need to change the value if a specimen was taken (i.e. either 'Specimen with public museum or herbarium' or 'Specimen with other collection'), or if there is some uncertainty around the identification, particularly in the case of bat ultrasound, or acoustic recording records (i.e. 'Sighting – probable ID' or 'Sighting – possible ID').	Select from dropdown list. In most cases, this will be left as the default 'Sighting only'.
	Number	The total number of individuals.	Integer, between 1 and 999,999.
	Estimate	The accuracy of the 'Number' (e.g. 'exact', 'estimate', 'more than', or 'less than').	Select from dropdown list.
	Sex	The sex of the species.	Select from dropdown list.
	Microhabitat types	The small-scale habitat (e.g. 'on ground', or 'in tree').	Click in the check boxes to select (or de-select) values.
	Breeding types	Details of the breeding status of the species (e.g. 'eggs' or 'nesting').	Click in the check boxes to select (or de-select) values.
	Notes	Enter any details regarding the species that could not be entered into any of the other existing fields.	Free text, up to 500 characters.
	External Key	Observer's own unique reference number. If you have tagged your organism (micro-chip, banded) then please enter the tag details in this cell.	Free text, up to 30 characters.
	File Location	If the record has been entered from a report, you could enter the office in which the report has been filed.	Free text, up to 65 characters.
	Status	All records go through a validation process on entry (see the Section 5.4 of the BioNet Atlas user manual for further details). This field is automatically populated on saving.	Auto-populated, protected from edits.
	Validation Flags	Once a record is saved, it will have been assigned a Status as part of the validation process. If the record fails validation and is saved to the Quarantine section of BioNet Atlas, the reason for this will be displayed in the Validation Flag field. Note that on saving your record you will no longer be notified (via a pop-up) if it saves to Quarantine. If interested, you would be best to review your records after entry.	Auto-populated, protected from edits.

Tab section	Field	Description	Format
History	Date created	The date the sighting was first entered into the database.	Auto-populated, protected from edits.
	Created by	The name of the BioNet Atlas user who entered the record.	Auto-populated, protected from edits.
	Date updated	If edits have been made to the record since it was originally entered, the date that the record was last re-saved.	Auto-populated, protected from edits.
	Updated by	The name of the BioNet Atlas user who last saved the record (original creation, edited).	Auto-populated, protected from edits.

* indicates mandatory field

Enter details for a FLORA sighting

1. To enter a flora sighting, click on the 'Flora' radio button (see Figure 16.31).

Figure 16.31 Flora options when adding a sighting

2. Flora records are entered as for fauna guidelines, with a few differences, as indicated above, and outlined in Table 16.16. Mandatory fields are marked with an asterisk.

Table 16.16 Description of additional fields available in the Sighting sub-tab for Flora records

Field	Description	Format
Flora code	A unique code attributed to an individual species, genus or family. Flora codes are maintained by the <u>BioNet team</u> . They are referred to as the Census of Australian Plant Species (CAPS). They are usually based on the names accepted by the	Unique letter/number (see <u>CAPS lists</u>).

Field	Description	Format
	RBG and displayed on the PlantNET website , though many other published names are also included.	
Growth habit	Whether the plant is a tree, herb, fern etc.	Select from dropdown list.
Height (lower)	The height (in metres) of the shortest plant.	Four-digit number, up to two decimal places. Must be less than the Upper height value.
Height (upper)	The height (in metres) of the tallest plant.	Four-digit number, up to two decimal places. Must be greater than the Lower height value.
Breeding types	While this field also applies to fauna, the available values in the flora setting are specific to plants.	Click in the check box to select (or de-select) a value. Note that multiple values can be selected.
Observation	While this field also applies to fauna, this field is automatically populated as flora record. Note that although there is an option for 'Floristics flora survey' , this should never be used here, as it is for use for records entered via Flora surveys.	Select from dropdown list.

* Indicates mandatory field

Note that the 'Microhabitat type' and 'Sex' fields do not apply to the Flora setting.

3. Click 'Add sighting' when you are satisfied with the details you have entered into the 'Sighting' sub-tab.
4. If there are no errors with your sighting the page will refresh, and your newly entered record will appear as a row in the table above the sub-tabs.
5. The 'Sighting' sub-tab will clear of all species data, however, your start and end dates will be retained, as will the details in any of the other sub-tabs that you have available ('Observer', 'Location'). If you have the 'Is within boundary?' option available, then this will also retain your earlier selection.
6. Add subsequent sightings as required.
7. Your sightings will be displayed in a table detailing the species, date, observation type, the number of individuals and whether the species was on site or not (these data are captured by the 'Within boundary?' field) (see Figure 16.32).

Survey name - ROYALBS Back to search New census

Fields marked with an asterisk (*) are mandatory.

Details Site Observer **Target species** Records New

First date	Sighting key	Species code	Scientific name	Common name	Observation type	Number observed	On site	
08/10/2012	SADB12101103	0249	Tyto javanica	Eastern Barn Owl	Heard call		True	Review Remove
08/10/2012	SADB12101104	0242	Ninox novaeseelandiae	Southern Boobook	Heard call		True	Review Remove
08/10/2012	SADB12101105	0248	Ninox strenua	Powerful Owl	Heard call		False	Review Remove

Figure 16.32 Sightings results table

16.2.8 Review a sighting

1. Click 'Review' in the relevant row. This will open the 'Sighting' sub-tab for that particular record.
2. Make your changes as necessary and click 'Update sighting'.
3. If there are no errors with your sighting, you will receive a pop-up saying the sighting has been updated successfully.

16.2.9 Remove a sighting

1. Click 'Remove' in the relevant row. This will open a pop-up.
2. Click 'OK' if you are certain that the record is the one you wish to delete. Your record will be removed from the table.
3. Click 'Cancel' if you selected the wrong row, or accidentally clicked Remove. Your original data will be retained.

16.2.10 Predator Scats or Host/Parasite Census Types

The format of recording sightings for predator scats or censuses involving host and parasite species or Koala SAT surveys is slightly different to that for other census types and so requires its own section for data entry.

1. If you are entering myrtle rust (or another form of fungus) you will need to select the 'Flora' radio button to locate the species. The BioNet Atlas database only recognises two Kingdoms – Flora and Fauna. Fungi is not an option.
2. As you are recording both primary and dependent sightings, you need to create a linkage for the two sightings. This is achieved by making the dependent sighting a sub-item of the primary sighting.
3. The 'Records' tab appears the same as for other censuses. First off you will need to add your primary sighting which will be a predator record for predator scat, a host plant species for myrtle rust or a tree for Koala SAT survey.
4. Once you have successfully done this, your primary sighting will appear as a row in the Records table. Notice the addition of a unique column on the left side of the table containing the '+' symbol. If you click on this your table will expand to display the dependent sightings associated with the record. This will be the species contained **within** the scat for predator scat techniques, the parasite species present *on* the host or the koalas observed for Koala SAT Survey. The '+' will change to a '-' symbol (see Figure 16.33).

Details Records

Results 1-1 of 1 New

	First date	Sighting key	Species code	Scientific name	Common name	Observation type	Number observed	On site	
<input type="checkbox"/>	08/10/2012	SADB12101104	1904	Canis lupus dingo	Dingo	Scat			Review Remove
<input type="checkbox"/>	08/10/2012	SADB12101104	1904	Canis lupus dingo	Dingo	Scat			Review Remove
									New

Figure 16.33 Expanding the dependent sighting table

5. To add your dependent sighting, you will need to click the 'New' button contained within the blank row. This will take you to the 'Sighting' sub-tab where the Start and end date fields will be populated with the date(s) you supplied for your primary sighting.
6. Enter your dependent sighting species data.

7. Click 'Add sighting'. If you navigate to the 'Observer', or 'Location' sub-tabs you will notice that these are both populated with data from your primary sighting. Neither of these sub-tabs will be editable.
8. When you have added your dependent sighting(s) expand your primary listing in the 'Records' tab using the '+' symbol to see your dependent sightings.

17. Bulk data entry – systematic fauna survey data

To facilitate the validation and import of sightings data, BioNet Atlas offers the functionality to submit records online via the 'Import spreadsheet' menu. Note the process to upload systematic survey data varies from that of sightings data, in that systematic survey data requires manual data entry of site information into BioNet Atlas before the spreadsheet can be uploaded.

As such, the ability to submit bulk uploads of survey data also requires edit access to the 'Fauna surveys' module. Ability to upload this data is currently available to the users shown in Table 17.1.

Table 17.1 Access to the 'Import spreadsheet' module by User Role

Func.	Public	Regist.	Sens. Spp. Data Lic.	Sens. Spp. Lic. Data + survey data edit rights	Govt.	OEH - General	OEH – TB Edit	OEH - Admin
Edit	N	N	N	Y	Y	Y	Y	Y

For an overview of the required steps and checklist to complete at each step refer to Figure 17.1.

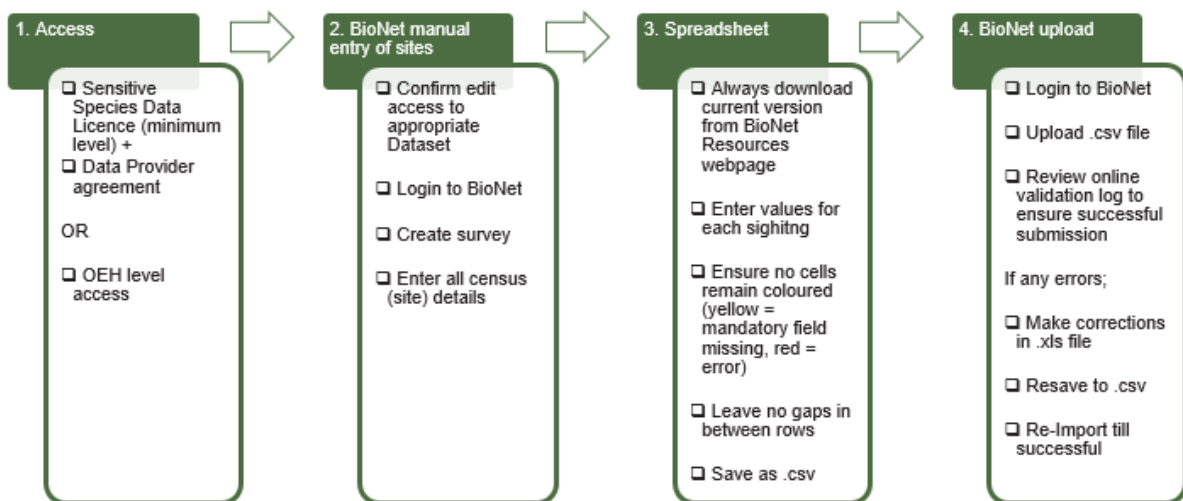


Figure 17.1 Summary workflow and checklist for upload of 'systematic survey' data into BioNet

17.1 Enter species records into the Survey datasheet

1. Login to BioNet Atlas and manually create your survey/census site details. Refer to Section 16 Entering fauna survey data for instructions.
2. Note the 'Site Number(s)' you have created.
3. Save a copy of the file 'FaunaSurveyDatasheet_6000.xls' to your local/share drive. Note that the file size will reduce once you are required to resave it in a different format (i.e. as a '.csv' file).

4. Open 'FaunaSurveyDatasheet_6000.xls'. There are three worksheets:
 - 'Sighting records' – this is where all the sightings details are entered.
 - 'Reference' – this contains the codes and descriptions for each of the fields in the 'Sighting records' worksheet. The 'Reference' worksheet is needed to ensure validation (on entry into the excel file) of values in the 'Sighting records' worksheet. Details of each field and the input requirements are contained in Table 17.2.
 - 'Info' – contains brief abstract and contact details including the date the file was last updated.
5. Enter the details of your species into the 'Sighting records' worksheet. To assist, Table 17.2 summarises the different field types and behaviours, while Table 17.2 provides detailed descriptions and requirements for individual fields.

Customise your own spreadsheet

In the 'Sighting Records' worksheet, the system reads the data from Row 3 of the spreadsheet to recognise the field titles and match them up to the fields in BioNet Atlas. This means that you can tailor a spreadsheet based on fields that you most commonly use, by moving the columns around (and hiding those you don't use) without compromising the submission process. Just don't change the values currently populated in Row 3 or delete fields you don't use.

6. Before referring to Table 17.2 for descriptions and requirements of individual fields, please review the following steps which outline the overall guidelines around data entry. Only a few fields in the 'Sighting records' worksheet are mandatory. These are highlighted in yellow. The first three mandatory fields are shown in Table 17.2.

Table 17.2 Summary of the various field type and behaviours for cells in 'AtlasSpreadsheet.xls'

Field type	Behaviour	Example screenshot				
Mandatory fields	<p>Only a few fields in the 'Sighting Records' worksheet are mandatory. These are highlighted in yellow; the three mandatory fields are shown here.</p> <p>Once data is entered into these fields in the correct format, the cells will automatically become white.</p>					

Field type Behaviour Example screenshot

Predefined dropdown lists

Some fields require a value to be selected from a pre-determined list. Clicking in the cell will display a dropdown arrow, which when clicked on, displays the full set of value options, such as illustrated for the field 'Type', shown here. You can either select the appropriate option from the dropdown list, or type in the value. Note that if you enter a value into a field with a dropdown menu that is not contained in the predefined list of values (e.g. typing the value Fauna into the 'Type' field), the following error message pop-up will display. Click either button and select the appropriate value from the dropdown list.

Site No	Technique	Type	SpeciesCode	CommonName
		FA		
		FL		

Technique	Type	SpeciesCode	CommonName	ScientificName	DateFirst
Ultrasound					

Specific formats

Some cells do not have dropdowns, but still require values to be entered with a certain format. For example, the date field must be entered in the format dd/mm/yyyy and must be greater than 01/01/1770 and less than the date of data entry. Entering a value which does not match the requirements for that field, will highlight the cell red, as shown here. You will need to edit the values to the correct format before the cell will display as white.

Scientific Name	Date		Count
	First Date	Last Date	
	Date of sighting (dd/mm/yyyy hh:mm).	If more than 1 day (dd/mm/yyyy hh:mm).	Count of individuals (numeric).
	01/01/1800	01/01/2015 00:00	
	January this year		

Free text

Some cells allow free text, such as the 'Notes', 'Specimen Rego' and 'External Key fields', however there is a cap on the number of characters allowed. Exceeding the maximum allowed length will result in a truncation of data after import.

Free text, though using pre-set codes

In the BioNet Atlas database, the 'Breeding Type' field can hold multiple values however the predefined dropdown lists only allows a single selection. To enable multiple values to be included, you need to refer to the Reference worksheet for the appropriate code(s) and manually type these into the cell. While typing anything else into these cells won't cause the cell to highlight red, ensuring you use the correct codes and format avoids the upload returning an error.

Field type	Behaviour	Example screenshot
Linked Mandatory fields	<p>Some cells become mandatory after a value has been entered into a related field, for example;</p> <ul style="list-style-type: none"> Entering a value into the 'Specimen Rego' field will cause the 'Specimen location' field to highlight yellow (and vice versa). Note that this particular example will also cause the 'Source code' field to highlight red, prompting you to change the value to indicate where the specimen has been lodged (a public or private museum or herbarium). The 'Observation Type' field only highlights yellow when fauna is selected in the 'Type' field. 	

Box 17.1 contains some tips and troubleshooting when entering values into the Atlas datasheet.

Box 17.1 Date fields in the Excel spreadsheet

To facilitate validation and import of datasets, the BioNet Atlas offers the functionality to submit survey records online via the 'Import spreadsheet' menu. Note that you can only submit survey datasets for import after first manually creating the census and site details in the appropriate survey module of BioNet Atlas.

Before proceeding, read the limitations around the use of the import spreadsheet for survey records, to determine whether it meets your needs.

Limitations of using the Import spreadsheet for survey data

1. Number of species records per census

Because of the need to manually set up your survey details in BioNet Atlas before attempting to submit the survey spreadsheet, it will be most useful for censuses with large numbers of species records (such as camera trapping). For surveys where there are only a handful of records at each unique census, you may find it more time consuming to utilise the survey spreadsheet.

2. Limited fields available

The spreadsheet does not contain the full range of fields available in the survey modules (rather it contains the most commonly used fields). As such, it will not always be suitable if you have data for fields not contained in the spreadsheet.

3. Doesn't apply to all census types

You cannot submit records for import for the following census types as each sighting is attached to a unique location;

- 'Harp trapping off-site'
- 'Opportunistic records off-site'
- 'Predator scats' (includes Host/Prey)
- 'Transect spotlighting' (as it has two sites attached)

4. Limited validation

The spreadsheet has been set up to cater for the majority of fauna census types, as well as Flora surveys records. While some fields will only apply to particular census types, some will only apply to either fauna or flora surveys. This would require substantial validations to ensure that any fields populated which do not apply to a particular census type are flagged in error (such as entering a value in one of the height fields for a record specific to a fauna census). Such detailed validations were beyond the scope of this development, so as a result entering a valid value which does not apply to the census/survey type, will simply be ignored in the import process.

Important advice around frequency of data submission

1. Choose how frequently you wish to submit data.

While datasets have historically been collated and submitted on a yearly basis (to coincide with the SL renewal), please note that you can submit data as frequently as you wish. You may choose to enter your 'full' dataset as a single file (at the time of your SL renewal); or as multiple files over time as the data is collected. Just make sure you enter your Scientific licence number in the relevant field on the submission form whenever you submit a file. And please keep a record of file names and dates of submission, in order to notify Wildlife Licensing when your Scientific Licence is next due for renewal.

2. Only submit datasets once*.

Please only submit new sightings once. This applies to both;

a) Records you have previously submitted. If, for example, you have decided to keep all of your records for the year in a single spreadsheet and you decide to submit records periodically throughout the year (at the end of each project, for example), please only submit the new records. Submitting the same records twice will be flagged as duplicates, but only after unnecessary effort by the BioNet team.

b) Records that someone else has collated for you under their Scientific Licence. The general rule here would be that the individual who has collected records pursuant to their Scientific Licence is responsible for collating and submitting the records themselves. If, for whatever reason, you have agreed to submit the records on their behalf (such as in the case that you have sub-contracted them to do the survey for you), then if the agreement between both of you is that you shall submit the records, please be clear to ensure that only one of you submits the records and also clearly advise Wildlife Licensing of this at the time of the Licence renewal.

*Note that this does not apply to datasets you submit online that fail validation due to missing/erroneous values. Datasets may need to be submitted several times until they pass validations

3. Advise the BioNet team ASAP regarding any valid submissions that should not be imported.

If, for example, you have successfully submitted a file online (i.e. Status = 'Ready for import') but you later realise that it is the wrong dataset you meant to upload (e.g. duplicate, or contains missing details etc), then please email the [BioNet team](#) asap with the file name and date of submission, so that we can flag the file as 'not for import'. Any datasets with a Status of 'Invalid' will not be reviewed or imported by the BioNet team, so there is no need to advise the [BioNet team](#) of such datasets.

Tips and troubleshooting when entering values into the BioNet SurveyDatasheet.xls

When entering sighting details, always enter the first record into Row 4 and do not skip any rows or enter values unrelated to sightings into other cells elsewhere in the spreadsheet.

If you add value with a **single apostrophe** in the 'Notes' field, the apostrophe will be exported and stored as a question mark in the database. If practical, please refrain from using apostrophes in these fields.

7. Always enter new datasets into the '.xls' file, to ensure appropriate validation (i.e. not the '.csv' file). Entering new records into the '.csv' file will compromise the inbuilt validations. Editing the '.csv' file converts the species code field to numeric, thereby removing the

ability to store leading zeros resulting in many species codes failing validation. Only after there are no red or yellow cells, is the file ready for submission to import. Table 17.3 contains descriptions for each of the fields in the BioNet Atlas spreadsheet, and the required format for entry. Mandatory fields are marked with an asterisk.

Table 17.3 Survey import spreadsheet fields

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
Index	IndexNumber	Unique sequential number.	Integer.	No.
Site Number*	SiteNo	Unique code for a location, which has been assigned to an existing location in BioNet Atlas.	As exists in the BioNet Atlas (i.e. must have previously been manually created in the BioNet Atlas).	Yes.
Census Type	Technique	The specific survey technique (i.e. Census type) used to record a species (e.g. Elliott trapping, Site spotlighting).	Select from dropdown list.	No (however if value in Site No and First date fields do not return a unique census, then you will need to specify technique type).
Type*	Type	Distinguishes fauna (FA) from flora (FL) species. Note that fungi are included under FL.	Select from dropdown list.	Yes.
Species Code	SpeciesCode	A unique code attributed to an individual species, genus or family. Codes can be obtained from the Census of Australian Vertebrate Species (CAVS) and Census of Australian Plant Species (CAPS) library fields. Please note that entry of codes is not required, as this can be calculated by the BioNet team, so long as the species scientific and/or common name is provided correctly.	Unique letter/number (see CAVS and CAPS lists).	No.
Common Name*	CommonName	The common name by which the species is known.	Free text, up to 80 characters.	Mandatory for fauna, where scientific name not supplied.
Scientific Name*	ScientificName	The scientific name by which the species is known.	Free text, up to 80 characters.	Mandatory for flora.
First Date*	DateFirst	The date the species was sighted.	dd/mm/yyyy hh:mm:ss	Yes. Time is required where it has

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
			≥ 01/01/1770	been specified in the Census start and end fields.
Last Date	DateLast	For species recorded on a specific day, you can leave this field blank (it will be automatically populated with the value from the First Date field). For species recorded over a period of time (e.g. during a survey conducted over a week, or where an approximate date was given), enter the Last Date .	dd/mm/yyyy hh:mm:ss. Later than or equal to First Date, and ≤ date of data submission.	No.
Count	NumberIndividuals	The total number of individuals.	Integer, >0.	No (but mandatory if value supplied for field 'Estimate Code').
Estimate Code	EstimateCode	The accuracy of the 'Count' (e.g. exact, estimate, more than, less than).	Select from dropdown list.	No.
Sex Code	SexCode	The sex of the species.	Select from dropdown list.	No.
Breeding Code	BreedingCode	Details of the breeding status of the species. See 'Reference' worksheet for available values and definitions.	Multiple codes separated by either; 1. comma 2. comma and space 3. space 4. semicolon 5. semicolon and space. Total character length ≤ 100.	No.
Source Code*	SourceCode	Source distinguishes standard sightings from those held at public or private collections. The default value for this field is set to 'Sighting only', which will be automatically populated once a value is entered into the 'Type' field. You only need to change the value if a specimen was taken (i.e. either Specimen with public museum or herbarium or Specimen with other collection), or if there is	Auto-populated once Type is selected. To edit, select from dropdown list.	Yes.

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
		some uncertainty around the identification, particularly in the case of Anabat records (i.e. Sighting – probable ID or Sighting – possible ID). See reference worksheet for values and definitions.		
Observer Name*	ObserverName	Name of the person who recorded the species.	<p>Multiple names allowed, separated by any delimiter (i.e. space, comma, semicolon etc).</p> <p>Free text, up to 500 characters.</p> <p>Note that in the following technique types, the observer details are sighting specific and therefore need to be added at the spreadsheet level;</p> <ol style="list-style-type: none"> 1. Acoustic recording 2. Bat ultrasound 3. Cage trapping 4. Camera trapping 5. Diurnal Herpetofauna 6. Elliott trapping 7. Nocturnal Herpetofauna 8. Nocturnal streamside 9. Site spotlighting. <p>In the following technique types, the observer details are census specific and are therefore already stored in the BioNet Atlas (so do not need to be entered in the spreadsheet);</p> <ol style="list-style-type: none"> 1. Diurnal birds 2. Hair tubes 3. Harp trapping On Site 4. Opportunistic records at standard sites 5. Pitfall trapping 6. Threatened Plants 	Yes.

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
			7. Waterbird Survey 8. Wet Pitfall trapping.	
Specimen Rego	SpecimenRego	The unique registration number assigned by the Herbarium/Museum where the specimen is lodged. Note that this is not the Inquiry number. If the specimen number is not available at the time of submitting your record to the BioNet Atlas, write 'not provided' and you can forward the Registration after you receive it.	Free text, up to 40 characters.	No (only mandatory if value supplied in field 'Specimen Location').
Specimen Location	SpecimenLocation	If a specimen has been lodged at an Herbarium or Museum select the location .**	Select code from dropdown list.	No (only mandatory if value supplied in field 'Specimen Rego').
External Key	ExternalKey	Observer's own unique reference number.	Free text, up to 30 characters.	No.
Notes	Notes	Enter any additional details regarding the species that could not be entered into any of the other existing (species related) fields.	Free text, up to 500 characters.	No.
Observation Type(* for fauna)	ObservationType	Refers to how the species was observed (e.g. observed, heard, scat). If more than one observation type was recorded, select the most reliable observation type here, and then enter additional values in the Notes field.	Select from dropdown list to overwrite auto-population (based on census type).	No. Observation type will be automatically selected on import based upon Technique type.
Microhabitat Type	MicrohabitatType	Small-scale habitat, e.g. 'on ground or in tree'. See reference worksheet for Microhabitat type values and definitions.	Multiple codes separated by either; 1. comma 2. comma and space 3. space 4. semicolon 5. semicolon and space. Total character length ≤ 100.	No.

Column heading (Row 1)	Field Name as stored in Atlas (Row 3)	Description	Required format	Mandatory?
Est Distance	EstDistance	The estimated distance that the species is located from the observers' position. Specific to the following technique types only; 1. Nocturnal playback 2. Diurnal Bird 3. Nocturnal Streamside.	–	No.
Trap No	TrapNo	Unique trap identifier assigned by the surveyor. Only applies to the following; 1. Elliott trap 2. Cage trapping 3. Pitfall 4. Hairtube.	Free text.	No.
Is Within Boundry	IsWithinBdry	If the call was heard within the site boundary (yes or no). Only applies to the following technique type; 1. Nocturnal playback 2. Diurnal Bird 3. Nocturnal Streamside .	Select from dropdown list.	No.
Time Responding	TimeResponding	The period or interval between call playback and animal response. Either; 1. 0 to 3 minutes after playback 2. 3 to 5 minutes after playback 3. During final listening period 4. During Initial period 5. During playback See reference worksheet for values and definitions.	Select from dropdown list.	No.

* indicates mandatory field

** After entering specimen details, please update the Source field by selecting the appropriate value, either;

1 - Specimen with Public Museum or Herbarium, or

2 - Specimen with Other Collection

17.2 Submit your file for import

- Once all sighting details have been entered you are ready to submit your file for import. You will first need to save your file in the correct format (a comma separated file; '.csv').
 - In Excel, make sure the 'Sighting Records' worksheet is the worksheet in your current view.
 - Select the 'Save As' option from the 'File' dropdown menu.
- A 'Save As' pop-up will appear.
- In the 'Save As' pop-up, select the file type '.csv' from the 'Save as type' dropdown menu. Note that this will only save the worksheet in your view, the 'Sighting records' worksheet (so make sure this is your current worksheet).

4. Change the filename.
5. Click 'Save'. A pop-up will display advising you that '.csv' files can only save the active sheet.
6. Click 'OK' (as you no longer need the Reference worksheet). A second pop-up will now display advising you that the file may contain features that are not compatible with '.csv'.
7. Click 'Yes'. The pop-up closes, and the file has been saved. Note that because the 'Reference' worksheet is not stored in your '.csv' file, the file size will be considerably smaller.
8. Your file is now ready to be uploaded via BioNet Atlas for submission.
9. Login to the BioNet Atlas using your secure login.
10. In the heading banner, note the menu heading titled 'Import spreadsheet'.
11. Move your mouse over the 'Import spreadsheet' menu to display the selection 'Submit sightings'. A 'Submit sightings' page will display (see Figure 17.2).

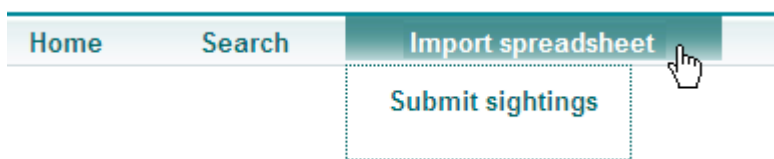


Figure 17.2 Submit sightings option under 'Import spreadsheet'

12. Five fields are available to populate:
 - 'Dataset'
 - 'Supplied by'
 - 'Scientific licence number'
 - 'Import type'
 - 'File'.

Warning: If you are using **Firefox**, using the **enter** key after typing in text (instead of clicking on the **Search** key) will cause the application to submit your file for Import before you are able to enter values into the other fields. The following error message will return:



Error!
File is required.

Please ensure you click on the 'Search' button.

17.2.1 'Dataset'

Records in the BioNet Atlas are grouped according to datasets to which they belong. To enter and edit records, users will need to have access to specific datasets. You can have access to multiple datasets, but one dataset will be your default.

Your Default dataset will display for the default setting (i.e. Standard Sighting Import). However, 'Dataset' is not required for Systematic Survey Sighting Imports. Once you change the Import type to 'Systematic Survey Sighting Import', the Dataset field will automatically become blank and grey out.

17.2.2 'Supplied by'

The supplied by field allows you to identify the name of the 'owner' of the dataset. In most cases this will be you (i.e. the observer of the records). Note that if you are submitting a file on behalf of someone else, please select their name.

1. In the 'Supplied by' field, click on the 'Search' button. A 'Search for Observer' pop-up will display.
2. Type in all (or part) of your 'Surname' and/or 'Given name(s)'.
3. Click the 'Search' button. All names that match your search criteria will display (see Figure 17.3). Note that the names available for you to search on, are restricted based upon your login details (i.e. while OEH staff will have access to the complete list of contact names, users external to OEH will only have access to a subset of contact names relevant to their organisation).

Search for observer

Surname

Given name(s)

Results 1-2 of 2 [Show all results](#)

Surname	Given name(s)	Address	Town	Phone	Email	Select	i
Plowman	D.	RBG Collector				Select	i
Plowman	Deyarne	c/o- NPWS, GISDivision, HO	Hurstville NSW	(02) 9585 6688		Select	i

Figure 17.3 'Search for Observer' results pop-up

4. If there are multiple names that match your search criteria, you can click on 'i'. A pop-up displays with additional contact details for the observer.
5. Click anywhere outside of the pop-up to close it.
6. To choose your details, click on 'Select'. The 'Search for observer' pop-up closes, and your selected contact details are displayed in the 'Supplied by' field.
7. If you are an external user and you do not see the correct Observer when you perform a search, please contact the [BioNet team](#) so that they can add the relevant Observer to your Licence.

17.2.3 'Scientific licence number'

If the dataset (or part thereof) is being supplied pursuant to a Scientific Licence, the licence number(s) should be recorded here.

Enter the licence number(s) in the 'Scientific licence number' field (this is a free text field, allowing up to 50 characters). Multiple licence numbers can be separated by a space,

comma or semicolon. Note that Scientific Licensing use the data from this field when renewing licenses to ensure data has been entering before issuing a new licence.

17.2.4 'Import type'

1. Select 'Systematic Survey Sighting Import'. Note that the 'Dataset' field will then clear and the name and search function will grey out (see Figure 17.4).

The screenshot shows two main sections: 'Submission settings' and 'File upload'.
 In the 'Submission settings' section:
 - 'Dataset': A text input field with a greyed-out 'Search' button to its right.
 - 'Supplied by': A text input field with a greyed-out 'New' button and a greyed-out 'Search' button to its right.
 - 'Scientific licence number': A text input field.
 - 'Import Type': Two radio buttons. The first is 'Standard Sighting Import' (selected). The second is 'Systematic Survey Sighting Import' (greyed out).
 In the 'File upload' section:
 - 'File': A text input field with a help icon (?) to its left and a 'Browse...' button to its right.

Figure 17.4 'Import type' option: 'Search' is greyed out

17.2.5 'File'

1. To select your file for upload, look at the 'File upload' box. Note the help button (?), which reminds you that only '.csv' files can be uploaded if clicked on.
2. Click on 'Browse'. A 'Choose file to upload' pop-up displays.
3. Use the 'Look in' field to navigate to the file, held on your local or hard drive. Unfortunately, you **cannot** use the 'Files of type' menu to filter on only '.csv' files.
4. Once your file has been selected, click on 'Close'. The file pathway and filename will be listed in the 'File' field and the field will automatically highlight green.
5. Alternatively, you can type the file name and pathway directly into the 'File' field.
6. You may have noted that once the cell highlights green, the 'Submit' button activates.
7. Click on the 'Submit' button.
8. A 'Data processing' pop-up displays. While processing, your dataset is undergoing preliminary validations which include checking that mandatory fields are filled in and values are entered in the correct format.

The system reads the 'Site no.' and 'First Date' information to determine the Survey and census that the data should be linked to (this validation happens after you submit the file). For this reason, technique type is not compulsory as long as there is only a single census at the particular Site on the relevant date.

If the above details are insufficient (i.e. there is more than one existing technique type for the site no and date range you have entered) the upload will return an error after submission. You will need to fill out the .xls file to specify the technique type, resave to .csv and then re-submit the file.

9. Once the database has validated the fields contained in your file, a 'Sighting submission' pop-up will display with details of your submission. You will need to review both the 'Status' and 'Log' values to determine how next to proceed.
10. You will receive one of two 'Status' values:
 - 'Invalid'

- 'Ready for Import'.

17.2.6 'Invalid'

If the 'Status' type displays as 'Invalid', this indicates that your file contains erroneous or missing data.

The 'Log' will identify which Row's contain fields that require review and edits, with a brief description of what edits are required, as shown in the example above. Note that the Row number here refers to the row number in your excel file.

Note that only the first 100 errors will display in the log, if there are more than 100 error messages, or you wish to review your messages at a later date, you will need to save the log to view details.

1. Click on the 'Save log' button. You will need to fix these errors in the '.xls' file. Editing the '.xls' file ensures that the formulae and reference worksheet validates any new values added.
2. Make any edits to the '.xls' file.
3. Resave the file as a '.csv' file.
4. In BioNet Atlas, re-submit the '.csv' file for upload.
5. Repeat this process as necessary until the 'Status' returns as 'Ready for Import'.

17.2.7 'Ready for import'

If the 'Status' type displays as 'Ready for Import', this means that your submission has passed all validations (see Figure 17.5).

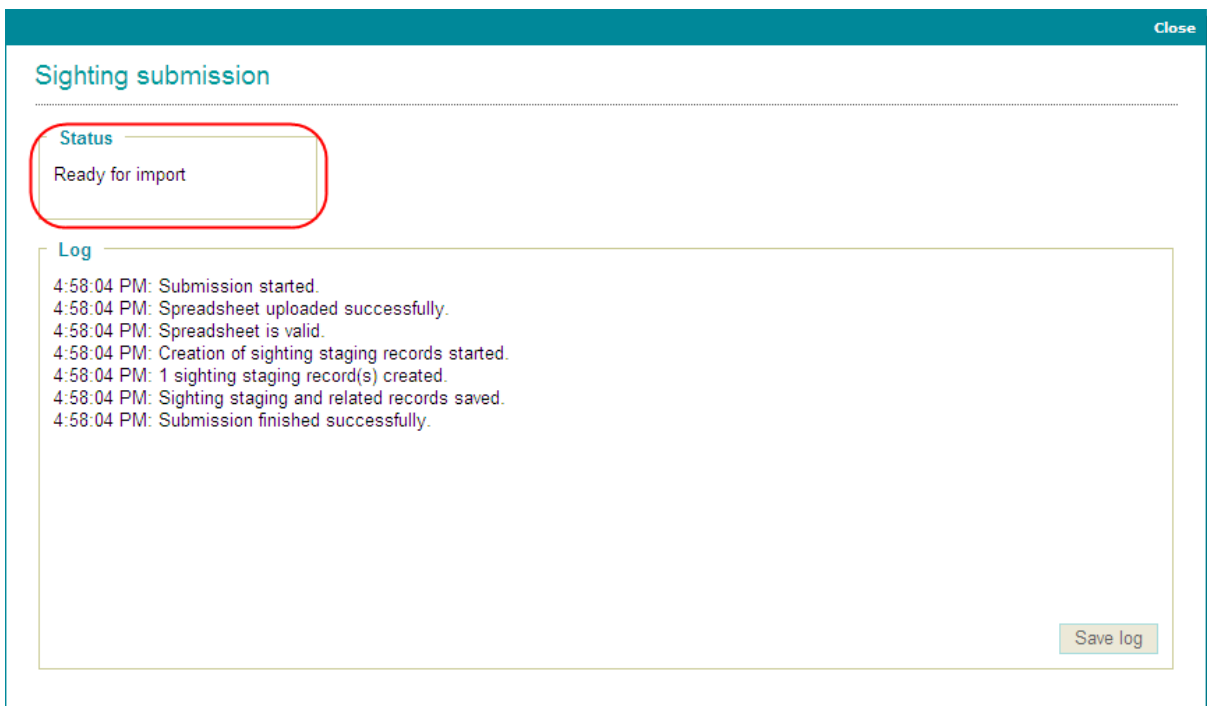


Figure 17.5 The 'Status' of 'Ready for import'

Note that you do not need to validate any locations, as the locations are already stored in the BioNet Atlas.

1. Your file has now been successfully submitted and is awaiting review and import by BioNet team staff.

2. Close the 'Sighting submission' pop-up.

Note: any files where the 'Status' is listed as 'Invalid', will be ignored by the [BioNet team](#).

17.3 Survey import troubleshooting

You may receive a Status of 'Invalid', without any fields specified in the 'Log' (see Figure 17.6).

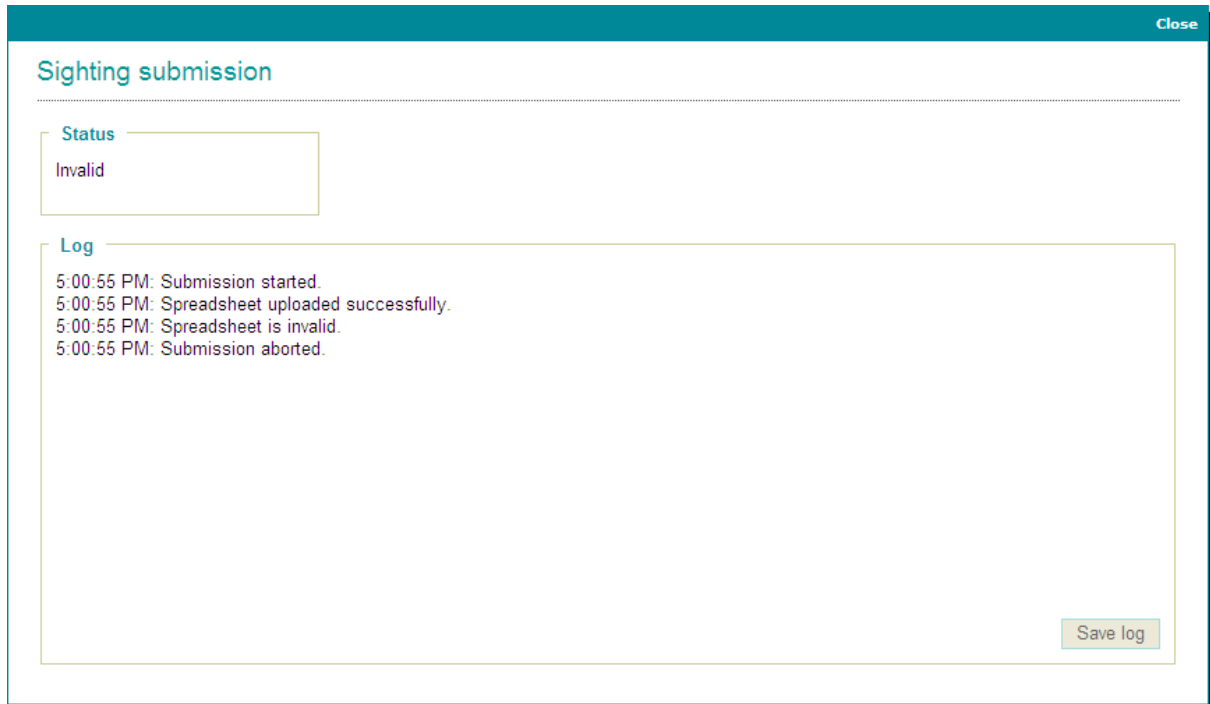


Figure 17.6 'Invalid' when trying to submit a sighting

The most common reason for this error is that you have entered a value into another row that is spaced at least one row after your last record. For example, if you have entered a single record into the spreadsheet (in Row 4), left Row 5 blank and then entered a random value by mistake into another Row (either in Row 6 or after) such as a letter or space.

This causes a problem because the system reads the Rows sequentially and can't process the validations in Row 6 (or later) where the rogue value was entered.

To locate the source of the error (and confirm if this is the issue):

1. Go to the file directory and locate the '.csv' file you attempted to upload.
2. Right mouse click on the file and select to open with Notepad (see Figure 17.7).

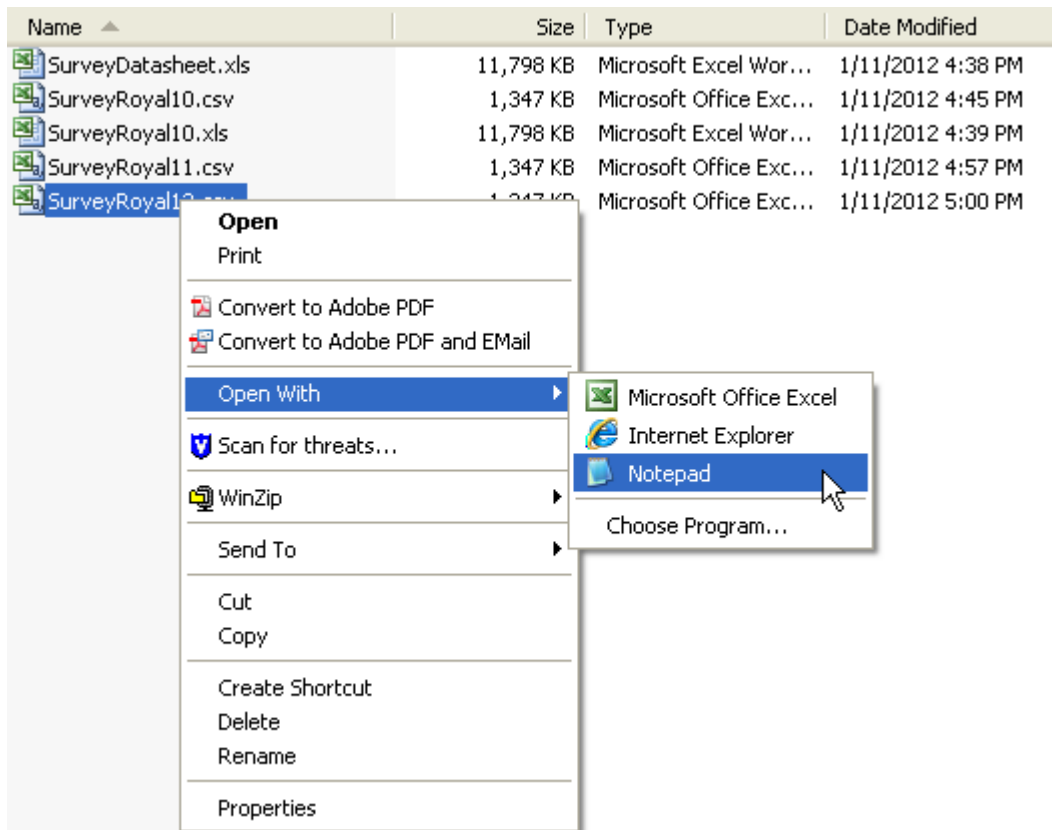


Figure 17.7 Troubleshooting invalid spreadsheets

3. Review the Notepad file for any incorrect values. It is advisable to scan the file beyond your data entry rows as in the conversion from '.xls' to '.csv' random data may be inserted into your file. Values (blank or otherwise), are separated by commas.

17.4 How are records imported into BioNet Atlas?

Once you have received a 'Status' of 'Ready for Import' in the 'Sighting Submission' pop-up, the file is stored in a staging area of the database, awaiting import. This essentially means that the records are stored in a waiting area of the database and have not yet been assigned sighting keys. As such, they will not appear in any searches you undertake.

The BioNet Team are the only OEH staff that can finish the import process to incorporate the records into the BioNet Atlas. Note that only those submissions flagged as 'Ready for Import' will be reviewed and imported by the BioNet team. All other submissions that have returned as 'Invalid' will be ignored.

The BioNet Team will routinely search the BioNet Atlas for files that are ready for Import and push these through for import.

For the file to be imported, this may involve further validation; i.e. creating new species details (where necessary) and review of potential duplicates, at which point BioNet staff may contact you if further clarifications are required.

18. Data Analysis Module

See Section 13 [Data Analysis Module](#).

Part E Validation and quarantine

To reduce the likelihood of incorrect records of species sightings being stored in BioNet Atlas, all records entered (including existing records that are edited and re-saved) undergo two automatic validation checks; against accepted distribution and potential duplicates.

19. Validation on spatial distribution

All species and populations are assigned a spatial distribution, indicating where the species is known or predicted to occur.

Historically, the process to review and quarantine any records based on distribution layers was the same for both threatened and non-threatened entities. However, with a growing number of records held in quarantine awaiting review, and distribution maps requiring ongoing review and maintenance, there was a need to enhance the process for threatened biodiversity.

19.1 Spatial distribution for threatened biodiversity

For threatened entities listed on the *Biodiversity Conservation (BC) Act 2016*, the spatial distribution layer for each entity is comprised of 'Known' and 'Predicted' occurrence values for IBRA subregions (see example in Figure 19.1). These layers are maintained by the Accountable Officer, Ecosystems and Threatened Species (EaTS).

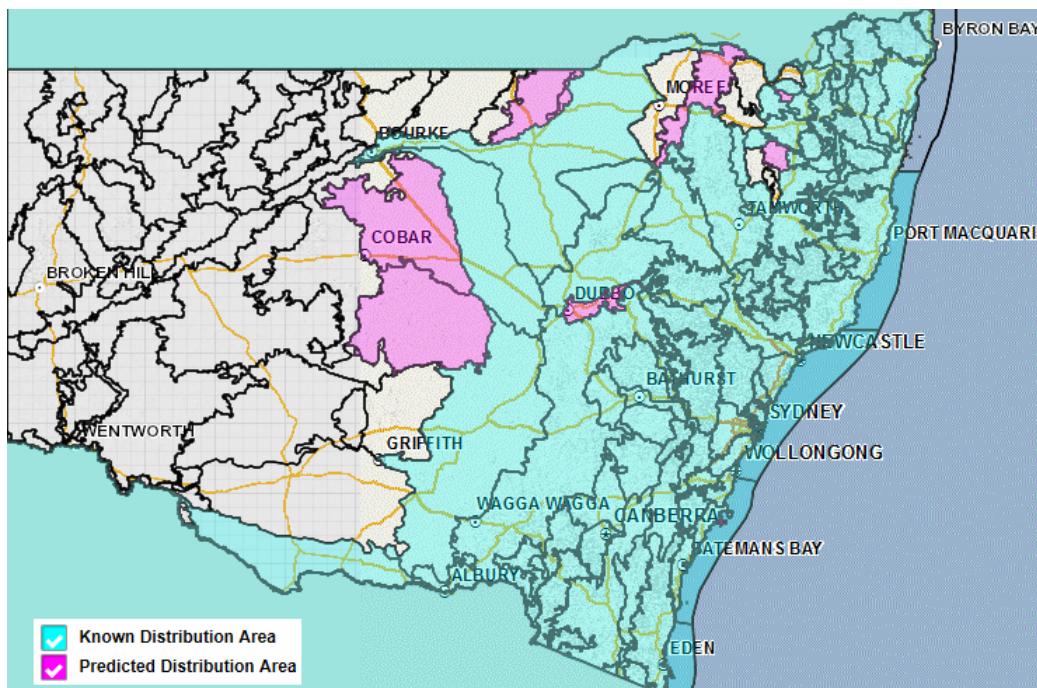


Figure 19.1 Known and predicted distribution of the Tiger Quoll (*Dasyurus maculatus*)

Previously, the distribution layers were maintained solely by manual review and updated based on literature, expert opinion and existing records. New records that fell within a known distribution were automatically accepted (Valid), while those that fell outside the known distribution were stored in quarantine (Invalid).

From **late** 2017 the spatial distribution was synchronised with records so that distributions are now updated automatically based on records. While the Accountable Officer can

manually flag an IBRA subregion polygon for a species as either 'Known' or 'Predicted', which value is selected is irrelevant as the polygon will store an IBRA subregion value based on whether there are existing records in that polygon that meet certain requirements.

Where an IBRA subregion contains at least one species sighting with a Status of V or Q (i.e. a valid record) and an accuracy of <10,000m, assigning an occurrence value (of either K or P) to the polygon will cause the Occurrence value for the polygon to automatically be marked as Known. Any subsequent records added to that IBRA subregion, regardless of the accuracy value, will automatically be assigned a status of V (Valid).

Similarly, if all sighting records for an IBRA subregion were edited such that there are no longer any records that meet the requirements (e.g. if the accuracy of the sole remaining record were edited to >10,000m or the status changed to R or S), the Occurrence value will automatically be changed from K (Known) to P (Predicted).

19.2 Spatial distribution for non-threatened species

For all other species, the spatial distribution layer is based on 1:100,000 mapsheets for fauna (see example in Figure 19.2) and Botanic Divisions for flora (see example in Figure 19.3). The layer is only comprised of 'Known' polygons. These layers are maintained by the BioNet team.

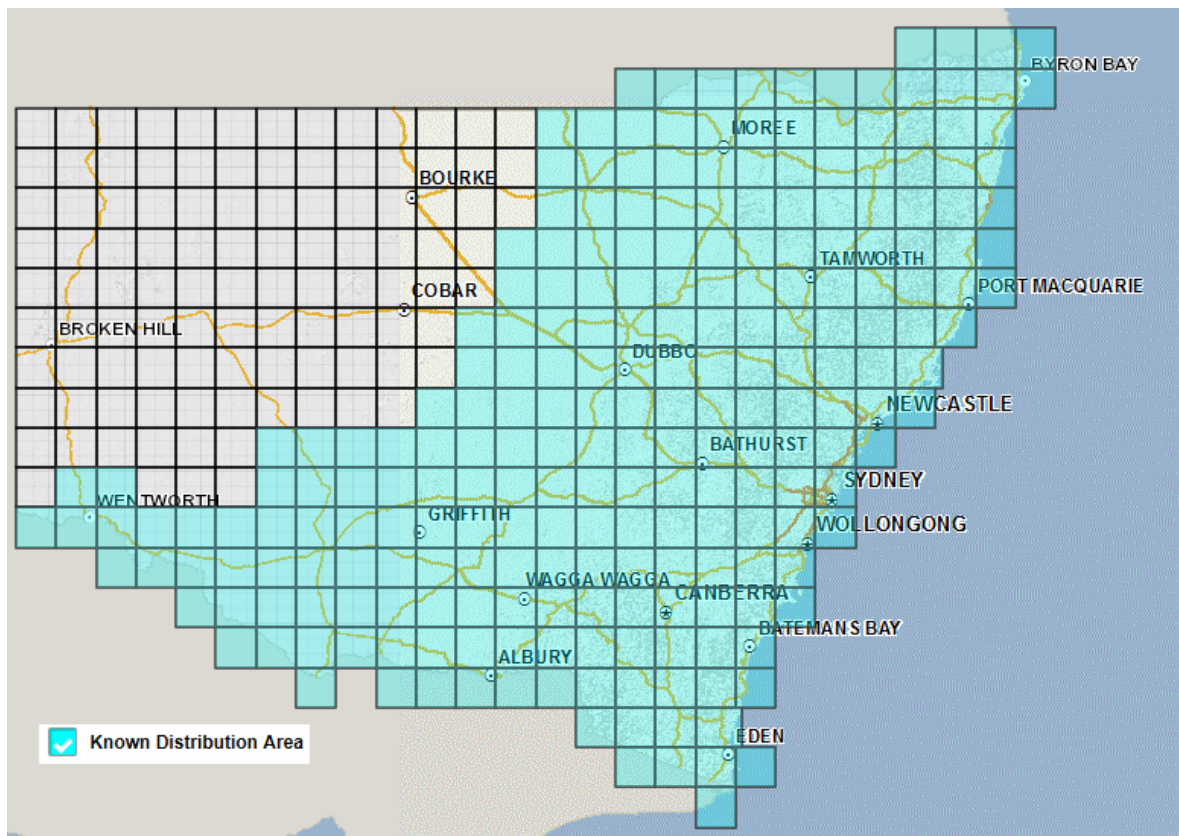


Figure 19.2 Known distribution for the Superb Fairy-wren (*Malurus cyaneus*)

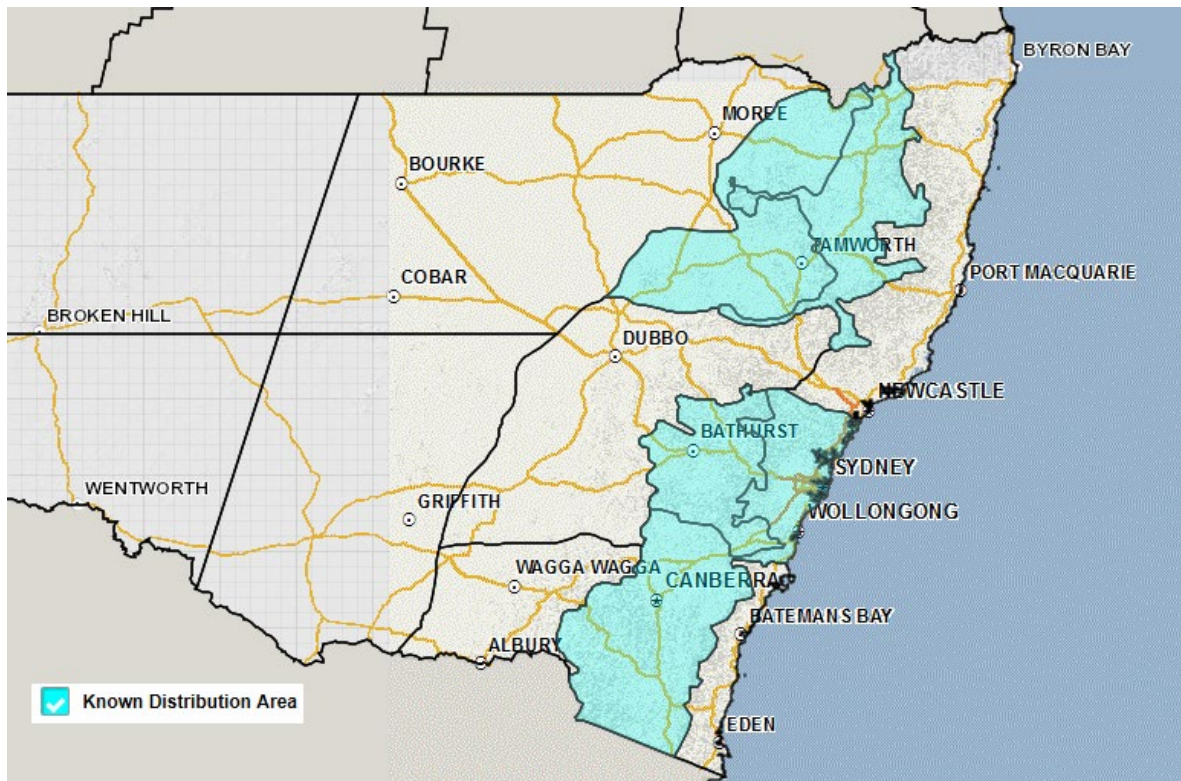


Figure 19.3 Known distribution for *Grevillea juniperina*

For non-threatened species, records entered into BioNet Atlas that occur outside of the spatial distribution for that species will have their status set to I (Invalid, in quarantine) on saving.

19.3 Validation on potential duplicates

Each time an attempt is made to save a new record, the system checks to see if there is an existing record with the:

- same species code
- same first and last dates
- same coordinates when rounded to three decimal places (a rounding of approximately 100 metres).

If the new record appears to be a duplicate of any existing records, then they will be presented to the user in a pop-up. The user will be able to open and manually review the existing record(s) to determine if the new record is a true duplicate of the existing record(s). If the record is considered not a duplicate, then it can be saved, though it will be saved with its status set to I 'Invalid, in quarantine' and Validation flag set to 'DUP' pending review by the BioNet team.

19.3.1 Validation status

After undergoing the spatial and potential duplicate validation, all records are automatically assigned a status. Either:

- V – Valid and accepted without modification
- I – Invalid, in quarantine.

Any record that fails validation (i.e. is invalid) based on either spatial distribution or because it is a potential duplicate is assigned the status 'Invalid, in quarantine'. Where the status is Invalid, the reason the record failed validation is stored in the 'Validation flags' field; either ACD (accepted distribution) or DUP (potential duplicate). These records are not necessarily incorrect, but often simply require further validation checks. They will retain this status until they are reviewed and assigned a new status from one of the following options:

- Q – Accepted as valid from Quarantine
- S – Suspect
- R – Rejected as certainly incorrect
- G - Vagrant or escaped animal or planted specimen
- X - Valid record from population that is no longer extant.

In searches, Valid (V), Accepted (Q), Vagrant (G) and Extinct (X) records are available by default as they are all valid records. However, users can choose to alter the search to return Suspect (S), Rejected (R) or Invalid (I) records in reports.

19.4 How are records removed from Quarantine?

For records of threatened species, this is done by the Accountable Officer, EaTS. Refer to Section 19.4.

For all non-threatened species, this is done by the Quarantine Officer, BioNet team.

Part F ‘Threatened Biodiversity Profiles’ data collection

The ‘Threatened Biodiversity Profiles’ data collection contains data relating to Critically Endangered, Endangered and Vulnerable species, Endangered Populations and Critically Endangered, Endangered and Vulnerable Ecological Communities and Key Threatening Processes that are listed in the Schedules of the *NSW Biodiversity Conservation Act 2016* (BC Act). Information on threatened biodiversity that are listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which occur in NSW but are not currently listed on the BC Act, is also included.

The ‘Threatened Biodiversity Profiles’ data collection was originally developed within OEH, as the ‘Threatened Species Profiles Database’ (TSPD) to provide a succinct compilation of known information for threatened biodiversity that were listed under the then *Threatened Species Conservation Act 1995* (TSC Act). These data were made available to the general public through the [Threatened Biodiversity website](#) which was created specifically for this purpose. Over time the scope of the information contained in the ‘Threatened Biodiversity Profiles’ data collection evolved to meet demands for a number of different assessment methodologies and frameworks to assist in implementing the then TSC Act and *Native Vegetation Act 2003*. In 2010-11 the ‘Threatened Biodiversity Profiles’ data collection was integrated into the BioNet Atlas application, enabling direct links to the BioNet Vegetation Classification database and the latest [Plant Community Type \(PCT\)](#) classifications.

In 2016, the Biodiversity Conservation Act was introduced. The legislation provided for a single assessment method to assess changes in biodiversity values from clearing or management – the [Biodiversity Assessment Method](#) (BAM). The ‘Threatened Biodiversity’ module was revised to remove data that supported past assessment methods but was no longer required for the BAM and to accommodate new data required to operationalise the BAM.

The ‘Threatened Biodiversity Profiles’ data collection is administered, as a module of the BioNet Atlas application, by the Biodiversity Information System Team in the Office of Environment and Heritage (OEH) Science Division. The data in the Threatened Biodiversity Profiles data collection are primarily maintained by the Accountable Officer (AO) OEH Regional Operations and Heritage Division (ROH) Ecosystems and Threatened Species staff. Relevant species specialists, where available, are also often consulted to assist in the compilation of the data.

F.1 ‘Threatened Biodiversity’ module and Threatened Biodiversity website application integration

Much of the information in the ‘Threatened Biodiversity Profiles’ data collection, including photographs and descriptive information related to distribution, habitat, ecology, threats and management priorities, is made available to the general public through the [Threatened Biodiversity website](#). Note that the ‘Threatened Biodiversity’ module contains additional assessment information to support the BAM calculator. This additional information is not available on the Threatened Biodiversity website.

The Threatened Biodiversity website is linked directly to the ‘Threatened Biodiversity Profiles’ data collection so most changes to information displayed on the website must be made through changing the information in the ‘Threatened Biodiversity Profiles’ data collection. The website includes some querying capabilities, such as the ability to provide lists of threatened species within individual IBRA Subregions or lists for particular habitat types (i.e. NSW Vegetation Formations and Classes; Keith 2004).

The Threatened Biodiversity website also contains a link to information on the recovery strategies that are required for recovery of the species. This information is drawn from the Saving our Species (SoS) database (See F.2). Note some species still reference the Priorities Action Statement (PAS), which will be retired by the end of 2018 as this information is incorporated into the 'Saving our Species' database.

F.2 'Threatened Biodiversity' module and 'Saving our Species' database integration

The 'Threatened Biodiversity' module of the BioNet Atlas database is linked through to the '[Saving our Species](#)' (SoS) database via the Profile ID, allowing some of the information stored in the 'Threatened Biodiversity' module to be viewed (though not edited) via the SoS database.

SoS displays the following fields from the 'Threatened Biodiversity' module:

- Profile descriptions: Profile ID, General type (SoS Taxa), Scientific name, Common name, Commonwealth status and NSW status.
- Threats: Threat Category 1 (SoS Threat category), Threat Category 2 (SoS Threat name), Threat (SoS Threat description).

An essential and key relationship between the 'Threatened Biodiversity' module and SoS database is that threats cannot be deleted in the 'Threatened Biodiversity' module if there is a linked SoS action. Threats and descriptors can be modified in the 'Threatened Biodiversity' module and these changes are immediately visible in SoS.

1. SoS also initialises Key Threatening Processes (KTPs) descriptions from the 'Threatened Biodiversity' module for new KTP strategies/projects, but SoS Project coordinators can then edit this description in SoS without modifying the KTP description in the 'Threatened Biodiversity' module.
2. Information in the 'Habitat & ecology' and 'Management actions' tabs of the 'Threatened Biodiversity' module do not affect SoS.
3. The SoS database is maintained by the Threatened Species Conservation Team, Conservation Programs Branch, Conservation Regional Delivery Division. A Species Project Coordinator (SPC) is appointed for each entity for management within the SoS program.

Note in some instances the Species Project Coordinator (SPC) and Accountable Officer (AO) are the same person.

20. Getting started – access

To access the module, refer to Section 2.2 for information on different user roles and how to login to BioNet Atlas.

Table 20.1 summarises the view and edit functions in this module by user role.

Table 20.1 Access to ‘Threatened Biodiversity’ module by User Role

Func.	Public	Regist.	Sens Spp Data Lic.	Sen. Spp. Data Lic. + Survey edit data rights	Govt.	OEH general	OEH TB Edit	OEH Admin
View	N	Y	Y	Y	Y	Y	Y	Y
Edit	N	N	N	N	N	N	Y*	Y**

*Additionally, a small subset of OEH staff from the Conservation Programs Branch have responsibility for overseeing the edit of a small number of fields within the Assessment tab of the Threatened Biodiversity Profiles module, which impact on the BAM Calculator. These staff are assigned a ‘Profile Assessment Role’ enabling edit access to restricted fields.

**While OEH Admin staff are able to edit content, all edits are channelled to/approved by the Accountable officer for each Profile, to retain a single point of accountability.

View access to the ‘Threatened Biodiversity’ module is available to all users with a secure login to the BioNet Atlas application.

Edit access is restricted to a small number of approved OEH staff involved in content maintenance, primarily Accountable Officers from Ecosystems and Threatened Species (EaTS). Any request for edit access must be supported in writing (email) by the appropriate EaTS senior team leader.

The instructions for the ‘Threatened Biodiversity’ module are geared towards users with OEH Threatened Biodiversity Edit access, as the primary users of this module. As such, screenshots are taken using an OEH Threatened Biodiversity Edit login.

21. Accountabilities and workflows

21.1 Governance and Accountability specific to Threatened Biodiversity profiles

21.1.1 Scientific Committee

Species, endangered populations, ecological communities or Key Threatening processes are added/amended to the Schedules of the Biodiversity Conservation Act following a Final Determination by the NSW Scientific Committee.

When a Final Determination is made, the NSW Scientific Committee notifies OEH. Any advice received by OEH on changes to BC Act (or EPBC Act) determinations should be forwarded to the Biodiversity Information Systems Team via OEH SD Bionet Mailbox bionet@environment.nsw.gov.au.

21.1.2 Biodiversity Information Systems Team (BIST)

Databases and applications

Table 21.1 Summary of responsibilities for the Threatened Biodiversity Profiles module and related systems

System Name	Database Name	Database Custodian	Application Name	Application Custodian
Bionet	AtlasDB	BIST	atlasapp	BIST
			atlaspublicapp	BIST
			mapviewerapp	BIST
			threatenedspeciesapp	BIST
Saving our Species	SoS	EaTS	sosapp savingourspeciesapp	EaTS
Vegetation Classification	NSWVCA20DB	BIST	nswvca20app	BIST
	NSWVCA20PRDB	BIST	nswvca20PRapp	BIST

BioNet Administrator

The BioNet Administrator within BIST is responsible for procedures and system functionality associated with the BioNet system, including the 'Threatened Biodiversity' module. Contact bionet@environment.nsw.gov.au.

Wildlife Data Officer – Threatened Species

The Wildlife Data Officer (Threatened Species), BIST, is responsible for the day to day administration of the 'Threatened Biodiversity' module, and coordination of effective 'Threatened Biodiversity' data maintenance activities. Contact bionet@environment.nsw.gov.au.

Following notification of a Final Determination, the Wildlife Data Officer (TS) has responsibility for the following tasks:

1. The creation of a new entry in the 'Threatened Biodiversity' module and the generation of a new unique Profile Identification number.
2. Allocation of each entity to a Conservation and Regional Delivery Division (CaRD), Ecosystems and Threatened Species (EaTS) Team or to Conservation Programs Branch (CPB).
 - For entities that occur in only one Regional Operations Branch these will normally be automatically assigned to that Branch.
 - For entities that occur in two CaRD's, BIST will discuss with the relevant managers which Branch is best able to take accountability.
 - For entities that occur in three or more CaRD's, entities will be assigned to CPB (savingourspecies@environment.nsw.gov.au). A State-wide entity may be assigned to a CaRD if that Division has particular expertise on the entity and is willing to take accountability for it.
3. Forwarding SoS management stream nomination template to the accountable branch and asking for it to be returned to savingourspecies@environment.nsw.gov.au.
4. Advising EaTS EPB (via the mailbox savingourspecies@environment.nsw.gov.au) once the profile is created. EaTS EPB will then be able to create a species conservation project in the Saving our Species database, with linked information from the Threatened Biodiversity module including the profile code.
5. (for Threatened Ecological Community's (TEC)) Advising Manager Vegetation Classification database so that automatic updates in the Vegetation Classification database can be confirmed.

21.1.3 Regional and CPB EATS Teams

EaTS Working Group

The Ecosystems and Threatened Species Regional Operations Working Group (EaTS WG), chaired by Senior Team Leader EaTS (Environmental Program Services), is the forum through which the Threatened Biodiversity Profiles data collection and related EaTS consultation and procedures are attained.

EaTS Teams

The manager of the accountable EaTS Team should:

1. Assign a newly listed entity to an Accountable Officer who is to be responsible for compiling the required data and entering those data into the databases.
2. Liaise with BIST and other CaRD EaTS Managers if they consider it would be more appropriate for another CaRD to have accountability for a new listing.
3. Liaise with BIST in relation to updating accountable officers and Threatened Biodiversity Profiles.

Accountable Officer

The Accountable Officer should:

1. Complete and return the SoS management stream notification template to the [SoS email](#).

2. Compile and maintain the required profile data for a listed entity and enter the data including upload of the scientific determination document into the 'Threatened Biodiversity' module.
3. Coordinate relevant CaRD assistance with data compilation and data entry for State-wide species into the 'Threatened Biodiversity Profiles' Database.
4. Maintain the profile data of all threatened entities for which they are accountable, including:
 - 'Profile description and photos' (see Section 23)
 - 'Ecological data' (see Section 24)
 - 'Spatial Distribution' (see Section 25)
5. Assign and approve Threatened Biodiversity Profiles associations (for Threatened Species and Threatened Populations) for production release, including review of auto-assignments created with newly listed types sourced from the Vegetation Classification database.
6. Review quarantined records and maintain the 'Threatened Biodiversity Profiles' accepted distribution maps.

21.1.4 Ecosystem Assessment Planning

The Ecosystem and Planning section have responsibility for overseeing the BAM Calculator (+ other?). Given some fields from the Assessment tab of this module feed into the Calculator, they have responsibility to edit the following fields:

- Biodiversity Credit Class.
- Level of Biodiversity Concern (all fields contained within this section).
- Serious and Irreversible Impacts (all fields contained within this section).

The designated project officer(s) should:

- Review emails for change requests forwarded from the BioNet mailbox.
- Liaise with the Accountable officer where further information is sought.
- Make the edits in the Threatened Biodiversity Profiles module and email reply to the AO and BioNet mailbox to confirm edit has been made.

21.1.5 Specific procedures

Taxonomical split species

If entity A is taxonomically split into entities B and C:

- The name, old profile number and old profile details of entity A will remain in the Threatened Biodiversity Profiles module and be available on the website. In the NSW status field, the term 'Split species' will be entered by BIST. In the description field a note should be inserted by the accountable officer which lists the new entities into which the entity has been split. The entity will not be exported into the clearing assessment tools.
- For entities B and C new profile numbers will be created by BIST for each new name. At the end of the description field for each new entity record 'previously known as' and refer to the name of the previous entity 'A'.

Editing Data for Entities Assigned to Other Accountable Officers

Officers will have the ability to edit data for entities assigned to another Accountable Officer, including those of officers in other CaRDs. However, before changing any data, officers should confer with the Accountable Officer, or at least advise the Accountable Officer, that a change to the data is proposed and the reasons why. Any changes that are made to the data, the date of the change and by whom, are recorded in the database, so the source of any data changes can be tracked if appropriate protocol has not been followed.

De-listed species

Previously listed species which no longer remain listed on either the NSW or Commonwealth Schedules will remain in the Threatened Biodiversity Profiles data collection and should not be deleted. These species will still be able to be viewed on the website with this modified status, however they will not be exported to the assessment tools.

The NSW and Commonwealth status fields for these entities will be blank.

21.1.6 System maintenance

Updating Species names

Any formal updates to the scientific or common names of listed entities will be done automatically through the link to the master list of names held in the Species names module of BioNet Atlas. If a scientific or common name is incorrect, contact Biodiversity Information Systems Team (BIST) to make the correction.

Note that the names used in the Profiles should exactly match the schedules in the BC Act (which should be the same as the determination advice). Any typos in the schedules or subsequent changes to taxonomy cannot be updated in the Threatened Biodiversity module until the Scientific Committee publish an amendment to the schedules.

Where there is a discrepancy between the schedules on the BS Act and the current taxonomy, BIST will advise the Scientific Committee (SC). Once the SC have published an amendment, BIST will update the Species name.

Additionally, BIST will periodically undertake a systematic review of profiles against the schedules to the BC Act.

Updating accountable officers

When there is a need to change the Accountable Officer name the relevant CaRDs or CPB manager should contact the BIST to request this be reflected in the Threatened Biodiversity Profiles module, as this field is only editable by BIST.

Updating Commonwealth status of profiles

At the time new profiles are created, BIST will check the EPBC schedules to determine the correct EPBC status.

BIST will also undertake a systematic review of profiles against the schedules to the EPBC Act.

21.2 Summary workflows

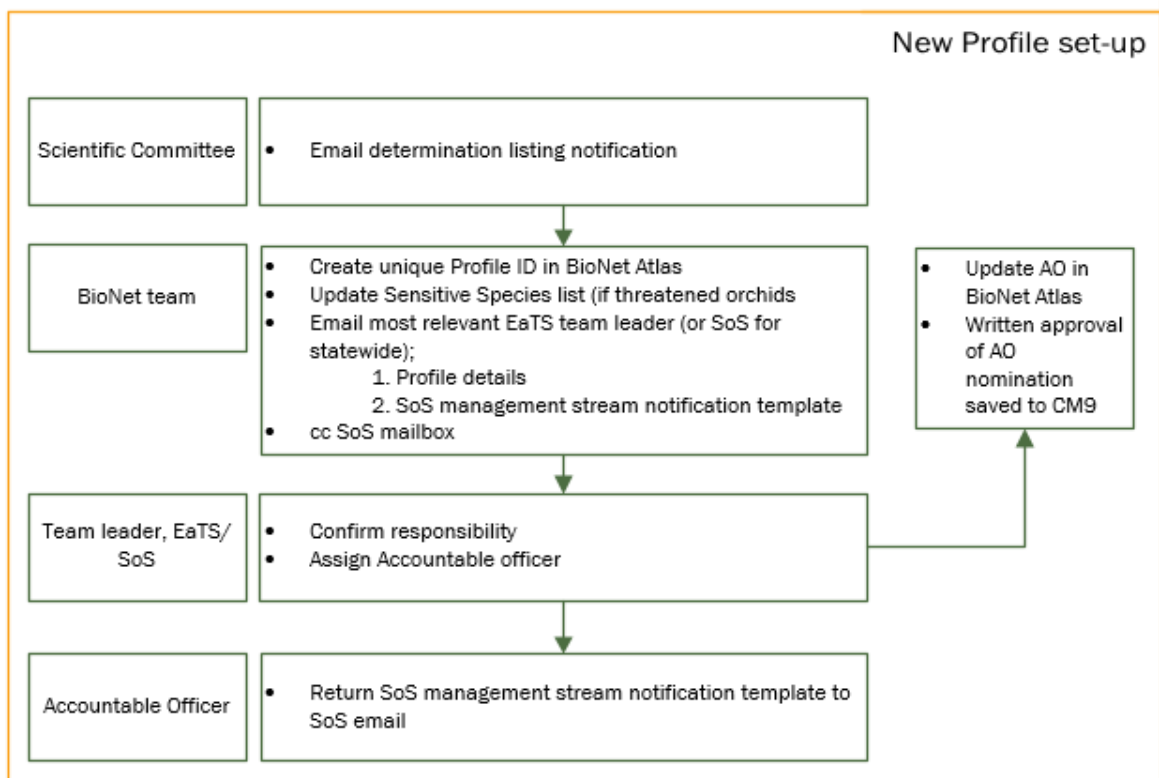


Figure 21.1 Workflow for Profile set-up for new schedules

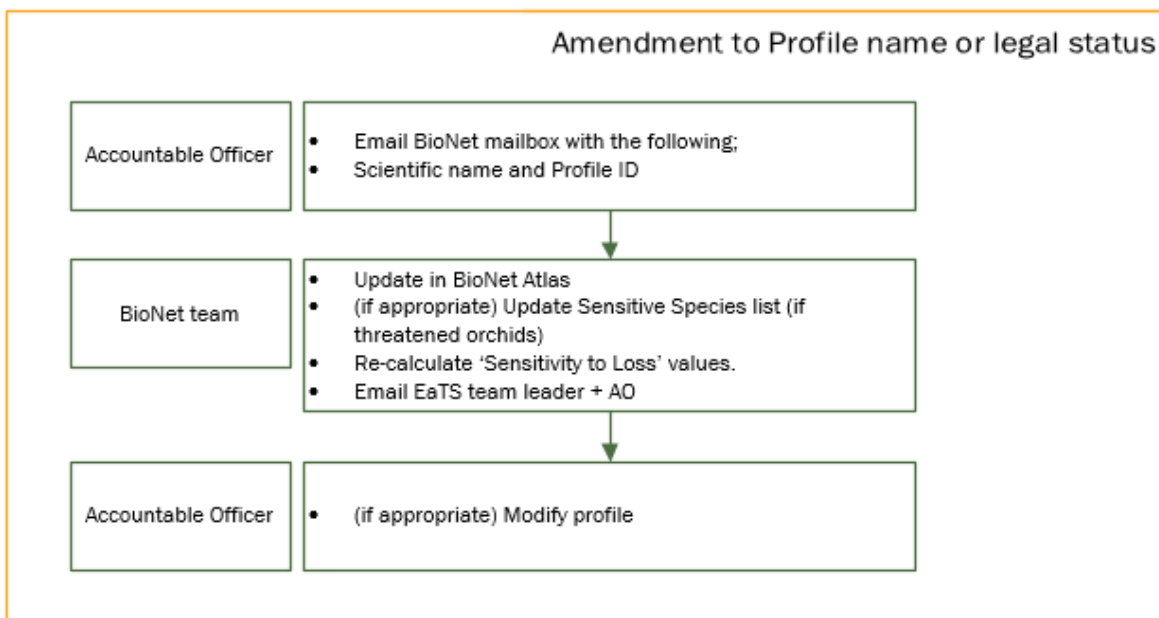


Figure 21.2 Workflow for amendments to profile name or legal status

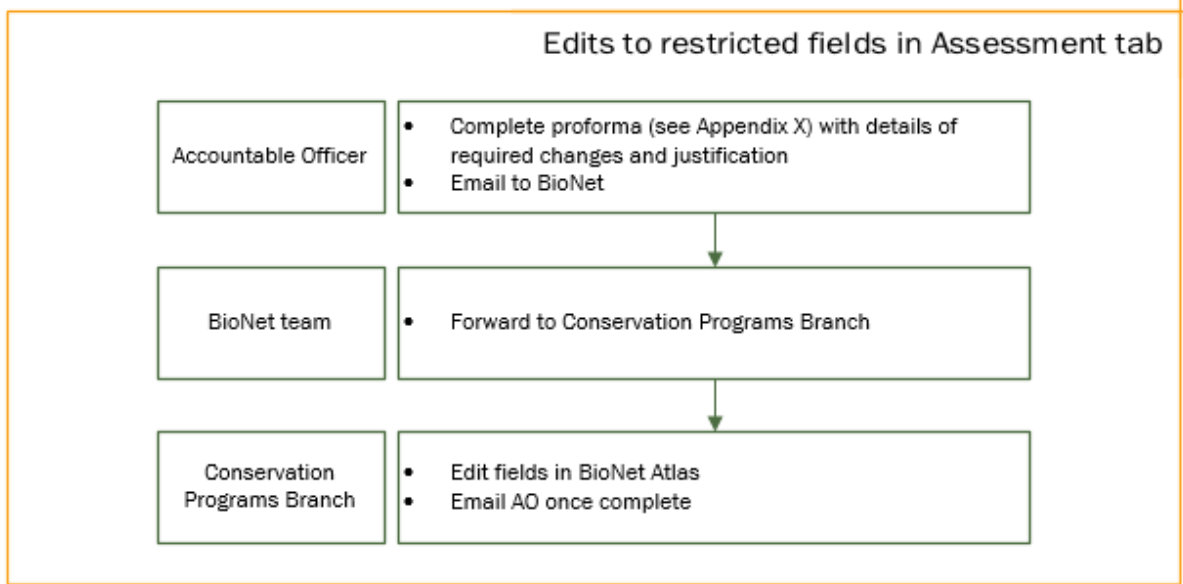


Figure 21.3 Workflow for edits to restricted fields in the Assessment tab

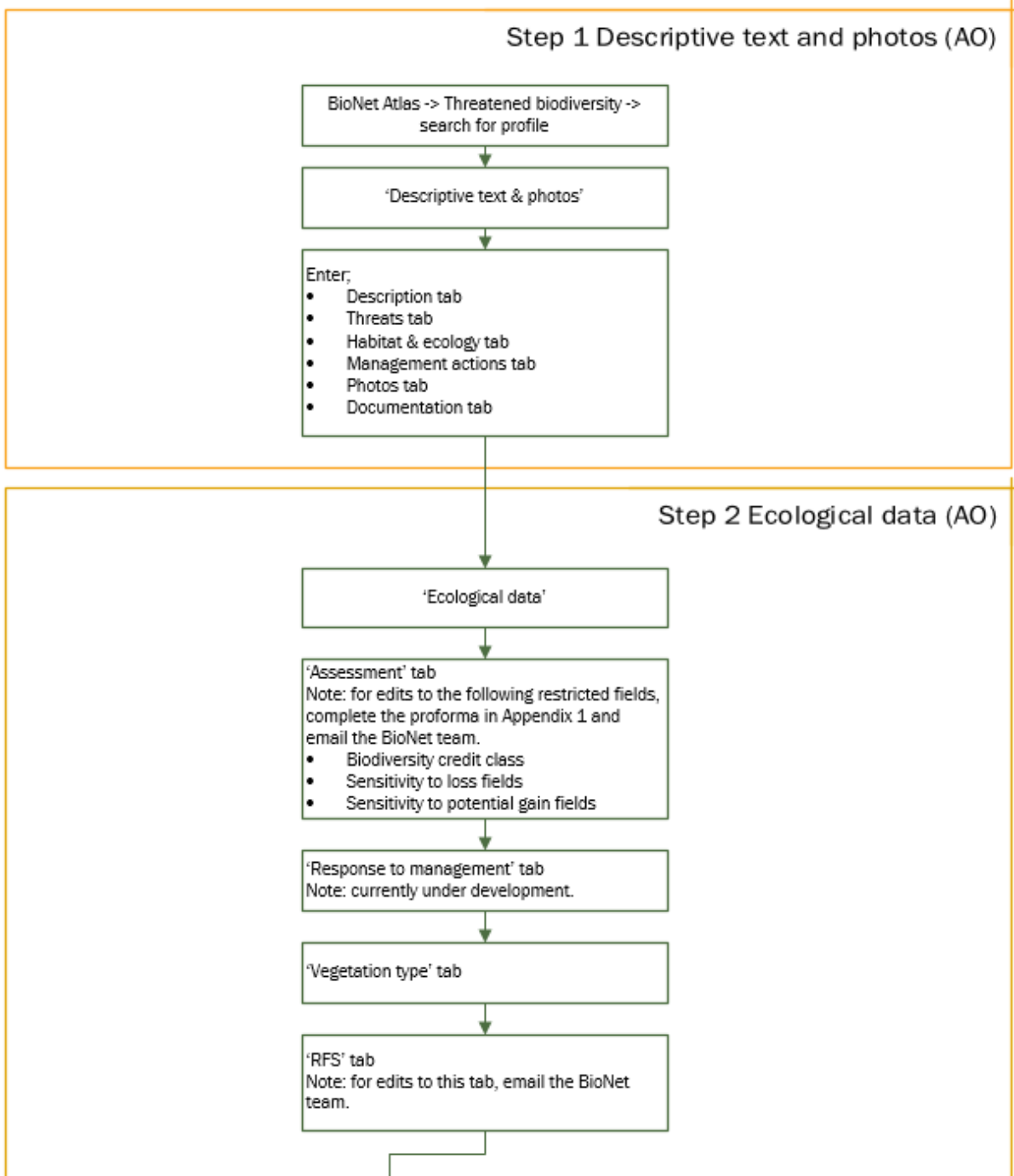


Figure 21.4 Overall workflow to populate and maintain a profile – Steps 1 to 2

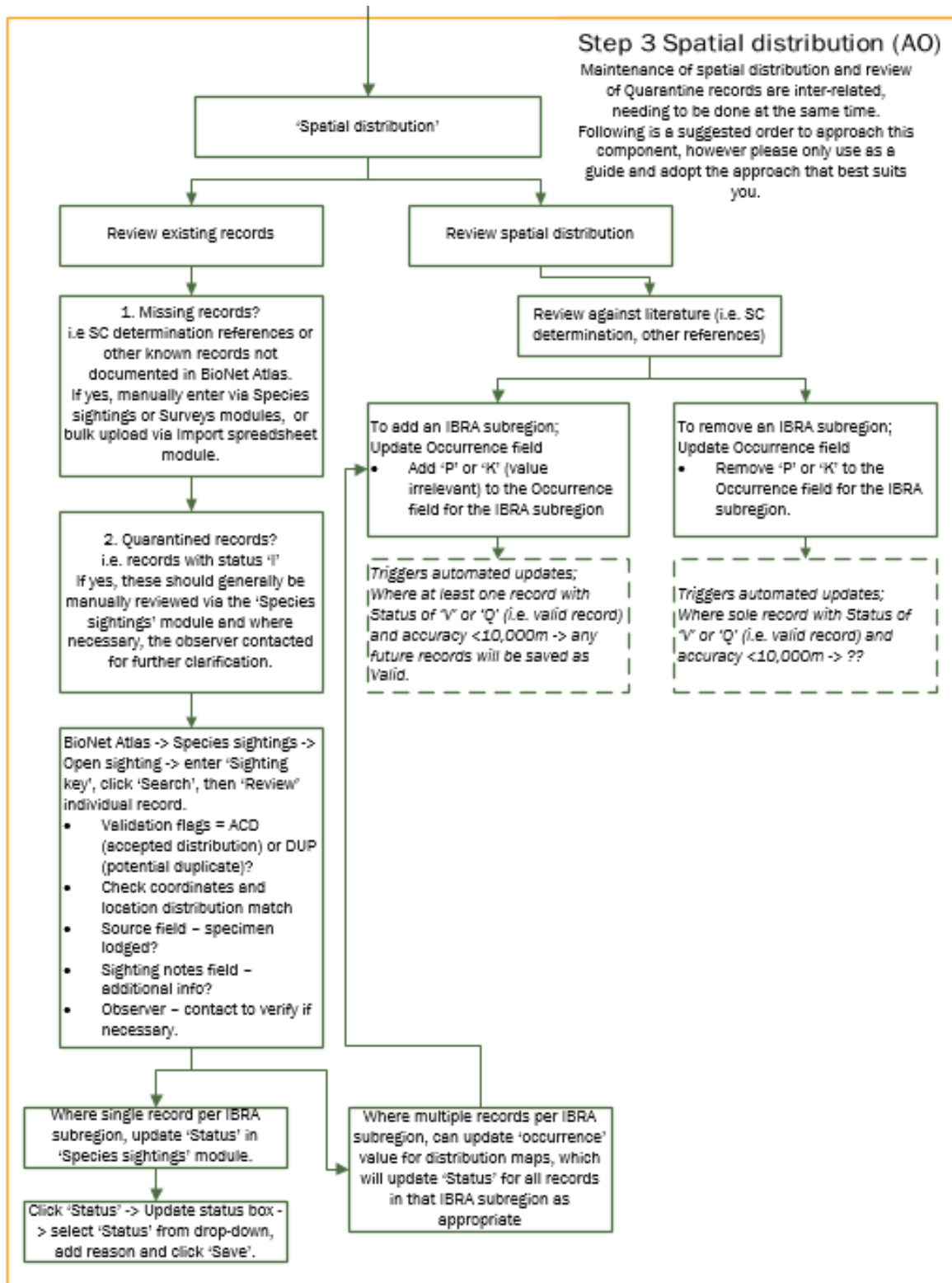


Figure 21.5 Overall workflow to populate and maintain a profile – Step 3

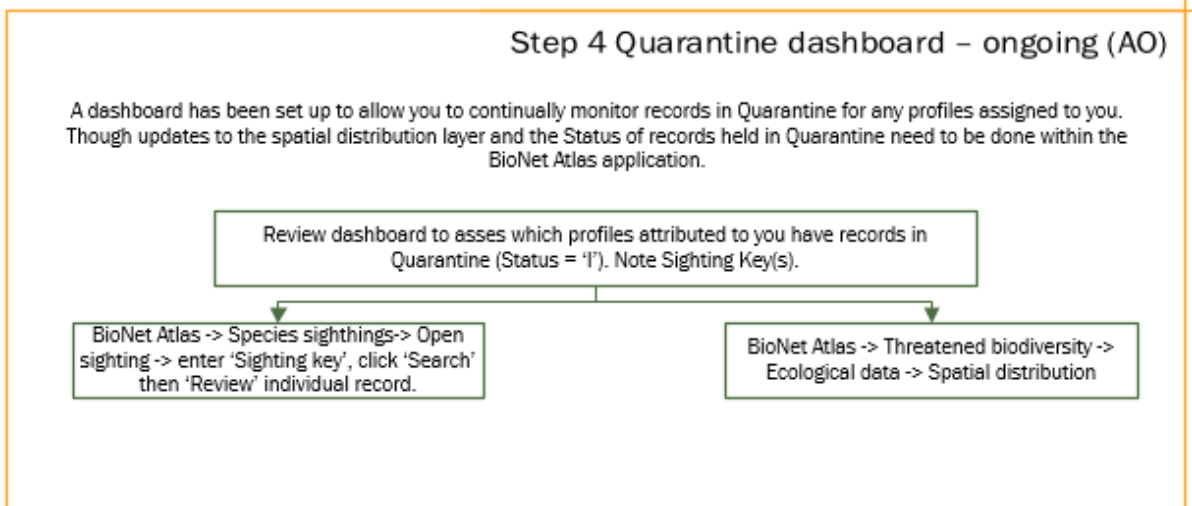


Figure 21.6 Overall workflow to populate and maintain a profile – Step 4

22. Profiles

The biodiversity profile details (see Figure 22.1) are displayed consistently through the 'Descriptive text & photos' and 'Ecological data' areas under 'Profile details'.

This information is maintained by the OEH Threatened Species Data Officer. To request changes/updates to those fields, contact the [BioNet team](#).

After the new profile details are entered into the system and the Accountable Officer is notified, access to the new profiles is the same process as accessing existing profiles (refer to Section 21). Both new and existing profiles are worked analogously through the database.

Profile details				History	
Profile ID	10045	Branch	South West	Date Created	08/07/2004 09:17:47
Scientific name	Amphibromus fluitans	Kingdom	Plant	Created By	Atlas Conversion
Common name	Floating Swamp Wallaby-grass	Family	Poaceae	Date Updated	07/09/2017 16:58:54
Profile type	Species	General type	Herbs and Forbs	Updated By	Atlas Conversion
NSW status	Vulnerable	Commonwealth status	Vulnerable		
Accountable officer		Date of final gazettal			

Figure 22.1 The biodiversity profile

22.1 Searching and editing species profiles

The Threatened Biodiversity data collection is accessed through the 'Threatened biodiversity' menu of the BioNet Atlas application (see Figure 22.2).

The screenshot shows the BioNet Atlas application interface. At the top, there is a navigation menu with options: Home, Species sightings search, Import spreadsheet, Species sightings, Fauna surveys, Flora surveys, Codes, Species names, Threatened biodiversity (highlighted with a red circle), and Logout. Below the menu, the 'Profiles' section is visible, featuring a search and edit interface with dropdown menus for Kingdom, General Type, Scientific name, Common name, Profile ID, and ProfileStatus, along with a Search button.

Figure 22.2 The BioNet Atlas menu

- To search the collection, do one or more of the following:
 - Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - Select the type of threatened biodiversity from the dropdown menu in the 'General Type' field.
 - Type in fully or partially the species scientific name in the 'Scientific name' field.
 - Type in fully or partially the species common name in the 'Common name' field.
 - Type in fully or partially the species profile number in the 'Profile ID' field.
 - Select the profile status from the dropdown menu in the 'ProfileStatus' field.
- Click on 'Search' to display the list of selected profiles (see Figure 22.3).

Profiles

09:24 Profiles: 2/118

Search & edit [Add PCT to profiles](#) [Reports](#)

Kingdom: --All--
 Scientific name:
 Profile ID:

GeneralType: --All--
 Common name: black-cockatoo
 ProfileStatus: --All--

Results 1-4 of 4

Scientific name	Common name	Profile ID	Profile status	
<i>Calyptorhynchus banksii banksii</i>	Red-tailed Black-Cockatoo (coastal subspecies)	20109	Complete	Descriptive text & photos Ecological data
<i>Calyptorhynchus banksii samueli</i>	Red-tailed Black-Cockatoo (inland subspecies)	10138	Complete	Descriptive text & photos Ecological data
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	10140	Complete	Descriptive text & photos Ecological data
<i>Calyptorhynchus lathami</i> - endangered population	Glossy Black-Cockatoo, Riverina population	10139	Complete	Descriptive text & photos Ecological data

Figure 22.3 Selected profiles after searching

- Find the biodiversity record you are looking for by scrolling through the list.
- If the results list is longer than one page, the page number is displayed on the top right side of the list. Click the numbers to move from one page to another.
- If the results list comprises more records than can fit on the screen, a scroll bar will appear on the right side of the screen. Use the up and down arrow to scroll up and down the screen.

23. Descriptive text and photos

The ‘Descriptive text and photos’ section contains information on the species physical description, distribution, threats, habitat, ecology, management actions, photos and any supporting documentation.

Select the species name you want to work on and click on ‘Descriptive text and photos’, to display the descriptive text and photos screen (see Figures 23.1 and 23.2).

The Profile details of the selected profile display on the top of the page. These details are not editable. Contact the [BioNet team](#) to request modifications.

Profiles 09:24 [Profiles](#)

Search & edit [Add PCT to profiles](#) [Reports](#)

Kingdom: --All--
 Scientific name:
 Profile ID:
 GeneralType: --All--
 Common name: black-cockatoo
 ProfileStatus: --All--

Results 1-4 of 4

Scientific name	Common name	Profile ID	Profile status	Descriptive text & photos	Ecological data
<i>Calyptorhynchus banksii banksii</i>	Red-tailed Black-Cockatoo (coastal subspecies)	20109	Complete	Descriptive text & photos	Ecological data
<i>Calyptorhynchus banksii samueli</i>	Red-tailed Black-Cockatoo (inland subspecies)	10138	Complete	Descriptive text & photos	Ecological data
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	10140	Complete	Descriptive text & photos	Ecological data
<i>Calyptorhynchus lathami</i> - endangered population	Glossy Black-Cockatoo, Riverina population	10139	Complete	Descriptive text & photos	Ecological data

Figure 23.1 Biodiversity profiles results list

[Description](#)
[Threats](#)
[Habitat & ecology](#)
[Management actions](#)
[Photos](#)
[Documentation](#)

Figure 23.2 Tabs available after selecting ‘Descriptive text and photos’

23.1 ‘Description’ tab

Common name (web display). This field should contain the common name of the species, population, community or key threatening process as it will be displayed on the Threatened Species website. Editing this field will not affect the name as stored in the Species names data collection and displayed on the Profiles details header.

Description. This field should contain a detailed description of the entity. Translate the technical vocabulary into plain English so that it is understandable by the general public, as this description is displayed on the website profile for the entity. Do not include references or unnecessary symbols not related to the description. If you include a scientific name, this can be italicised by selecting the name and selecting the italics icon.

Distribution. This field should contain detailed information on the distribution of the species in NSW, which can include the local government areas (LGAs) where these are not too numerous, and a brief description of any distribution beyond NSW. Do not include the IBRA Region or IBRA Subregions in this field, as this information is displayed on the website using data entered in the ‘Manage IBRA Subregions links’ field. Scientific names, if included, can be italicised by selecting the name and selecting the italics icon.

23.1.1 New description details

1. The 'Description' tab will open first (see Figure 23.3).


Descriptive text & photos

Profile details			
Profile ID	10140	Branch	South West
Scientific name	Calyptorhynchus lathami	Kingdom	Animal
Common name	Glossy Black-Cockatoo	Family	Cacatuidae
Profile type	Species	General type	Birds
NSW status	Vulnerable	Commonwealth status	
Accountable officer		Date of final gazettal	



History	
Date Created	08/07/2004 09:17:47
Created By	Atlas Conversion
Date Updated	01/12/2017 19:17:09
Updated By	Atlas Conversion

Description **Threats** **Habitat & ecology** **Management actions** **Photos** **Documentation**



Edit description details

Common name (web display) **B I** 


Glossy Black-Cockatoo

Description  **B I** 

The Glossy Black-Cockatoo is a small brown-black cockatoo with a massive, bulbous bill and a short crest. Males have a prominent red tail panel, while that of females is yellow to orange-red. The coloured tail panel is barred black in juvenile birds, with the extent of barring decreasing with age. The female usually has irregular pale-yellow markings on the head and neck, and may have yellow flecks on the underparts and underwing. They are usually seen in

Distribution  **B I** 

The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. An isolated population exists on Kangaroo Island, South Australia.

Profile status Complete 

Save

Figure 23.3 The 'Description' tab

2. In the 'Edit description details' box, complete the following fields:
 - 'Common name' (web display) field.
 - 'Description' field – click on the '?' for explanatory notes.
 - 'Distribution' field – click on the '?' for explanatory notes.
 - 'Profile status' field – The default status of a new profile is 'Incomplete'. Two options – 'Complete' and 'Incomplete' – are available in the dropdown menu.
3. Click on 'Save'.

Click on the Bold, Italic or Remove icons to format the text if needed.

23.1.2 Review description details

The user can review and update the existing description details.

1. Select the species in 'Search & edit', select 'Descriptive text & photos' and select the 'Description' tab.

2. Edit the text (see Figure 23.4).

To use bold, italics or remove styles, highlight the text where the style will be implemented or removed and click on the icon.

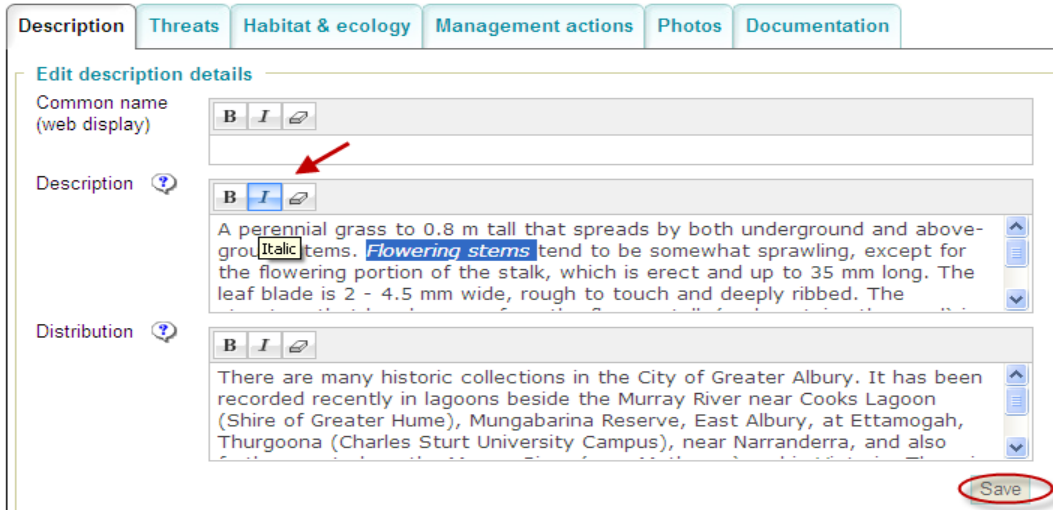


Figure 23.4 The 'Edit description details' section

3. Click on 'Save' to display a reason for change dialog box.
4. Type the reason why you are making the change/update to the Description fields (see Figure 23.5).
5. Click on 'Save' to save the changes made to the Description/s display. A message appears at the bottom of the page that reads 'Description details updated successfully!'

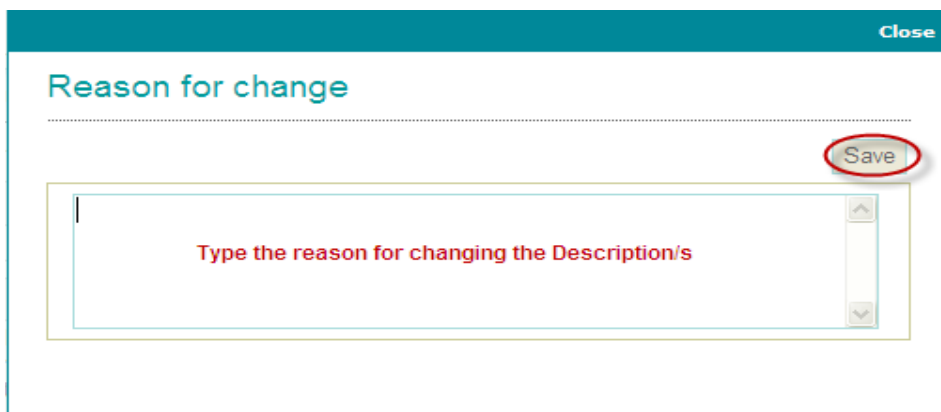


Figure 23.5 The 'Reason for change' box

6. Alternatively, to exit without saving, click on the 'Ecological data' button or 'New search' button. A warning message will be displayed.

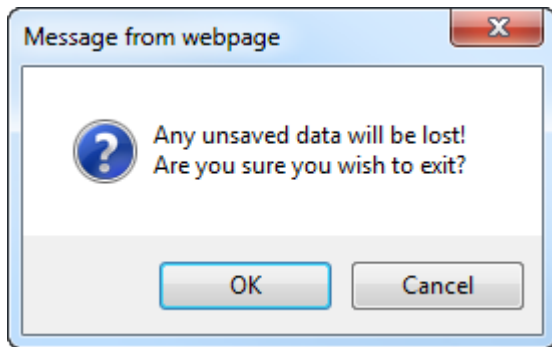


Figure 23.6 Warning message

7. Click OK to accept and exit without saving.

23.2 'Threats' tab

Threats. Briefly describe all the threats affecting the entity. Each threat must be added as a separate entry, and each entry will appear as a dot point under the 'Threats' heading on the website. In the 'Order' column, number each threat in order of the significance of the impact on the entity. The list of threats will appear on the Threatened biodiversity website in the order they are numbered. Ensure that the threats included on this field are consistent with the recovery actions listed in the Saving Our Species database.

23.2.1 New threats

Click on 'Threats' to display the threats screen.

The user can add new threats to profiles (see Figure 23.7):

1. Choose a 'Threat Category 1' from the dropdown menu.
2. Choose a 'Threat Category 2' from the dropdown menu.
3. Type a new description in the 'Threat details' field.
4. Assign a number in the 'Sort Order' field according to how relevant the threat description is to the profile.
5. Click on 'Add' to add the new threat details to the profile.

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the 'Review' function once the threat has been finalised.

If the 'Sort order' field is left blank, an error message will be displayed.

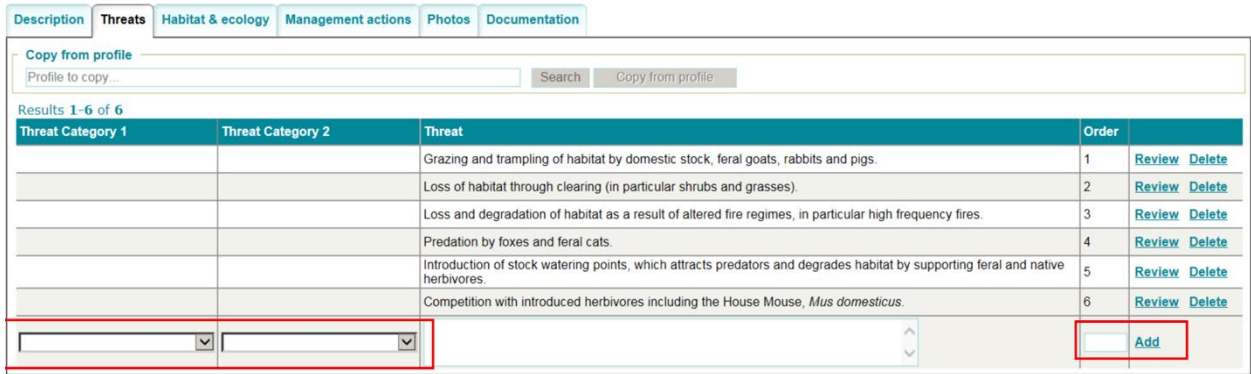


Figure 23.7 The 'Add' function, to add new threat details

23.2.2 Copy threats from another profile

Warning. Once you copy threats across from another profile, where there is a linked action in the SoS database, you currently will not be able to delete the copied threats within the 'Threatened Biodiversity' module. Please use caution when copying threats.

Users can copy across existing threats from other profiles for new and existing profiles (see Figure 23.8).



Figure 23.8 The option to copy existing threats from other species

1. Click on 'Search' to display the 'Search for profile' dialog box (see Figure 23.9).

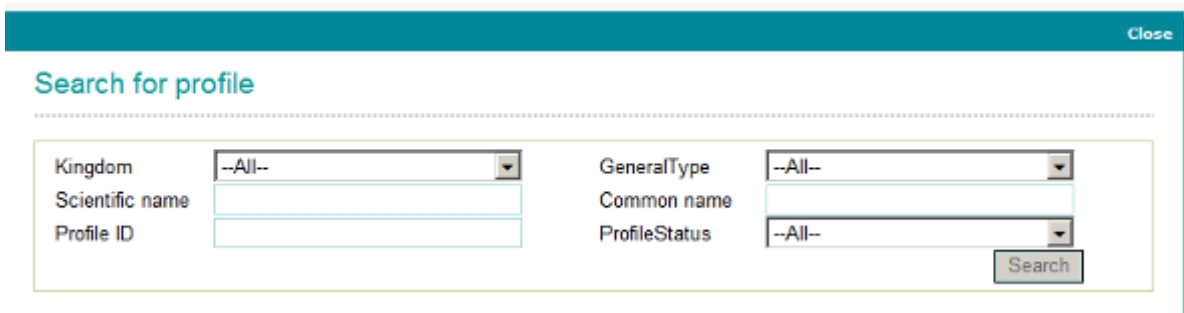


Figure 23.9 Screenshot of the 'Search for profile' dialog box

2. Do one or more of the following:
 - o Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - o Select the type of threatened entity from the dropdown menu in the 'General Type' field.
 - o Type in fully or partially the species name in the 'Scientific name' field.
 - o Type in fully or partially the species name in the 'Common name' field.
 - o Type in fully or partially the species profile number in the 'Profile ID' field.
 - o Select the profile status from the dropdown menu in the 'ProfileStatus field' to refine the list of profiles according to completeness.

3. Click 'Search' to return the results page (see Figure 23.10).
4. Select on the profile from which you want to copy the threats. The name of the selected profile displays in the 'Copy from profile' field, and the 'Copy from profile' button becomes available.

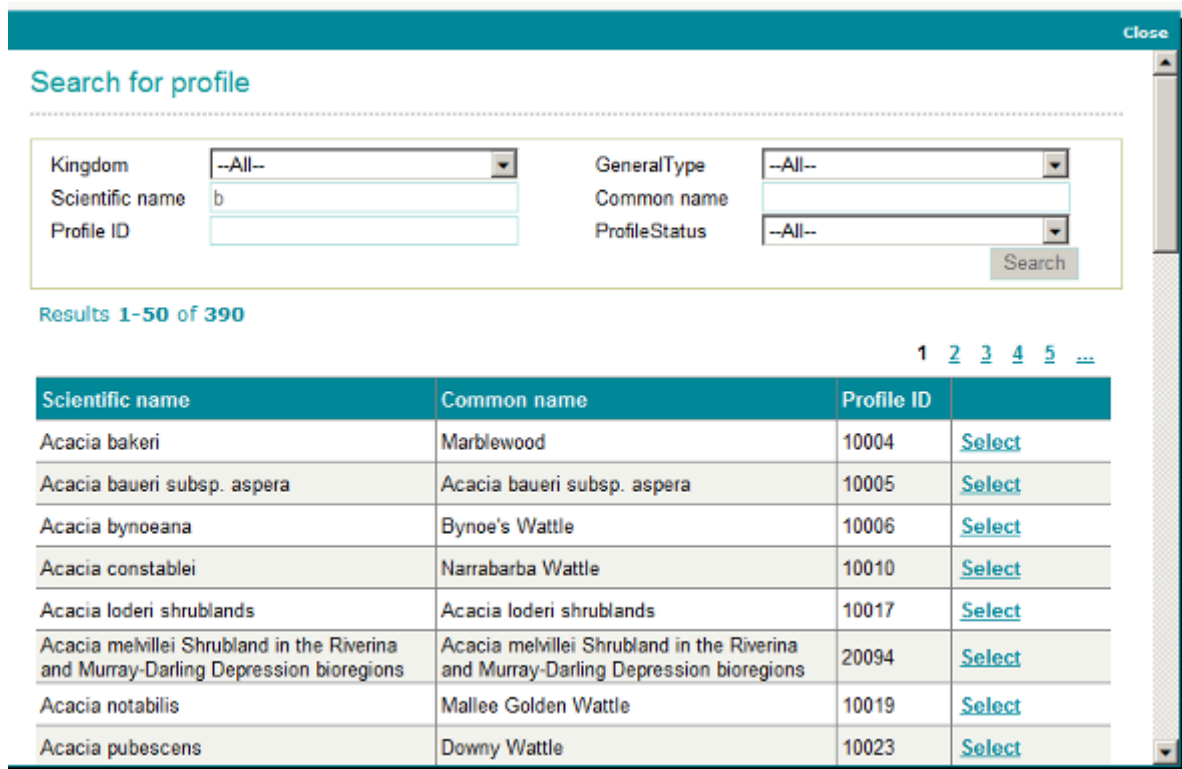


Figure 23.10 The results page after searching for a profile

5. Click on 'Copy from profile' button. A confirmation box displays.
6. Click on 'OK' or 'Cancel'. If 'OK', all the threats from the selected profile copy across and display (see Figure 23.11).

Numbering order does not sort itself and has to be re-allocated by selecting the review function once the threat field has been finalised.



Figure 23.11 The new threats added to the profile

23.2.3 Review threats

User can review and update the threats.

1. Select a threat from the list displayed.
2. Click on 'Review'. The selected description becomes editable, and 'Update' and 'Cancel' functions display (see Figure 23.12).

Threat	Order	
Drainage of wetlands and ponds.	1	Update Cancel
Reduced water quality due to siltation, pollution and salinity.	2	Review Delete

Figure 23.12 The 'Review' function when reviewing threats

3. Edit the text.
4. Change the number in the 'Order' field, if applicable. Numbering order does not sort itself and must be re-allocated (see Figure 23.13).
5. Click on 'Update' to save the changes made to the selected description, or 'Cancel' to abort the changes.


Threat	Order	
Reduced water quality due to siltation, pollution and salinity.	2	Review Delete
Predation by foxes and cats.	3	Review Delete
Use of herbicides, pesticides and other chemicals near wetland areas.	4	Review Delete
Grazing and associated frequent burning of wetland areas.	5	Review Delete
Drainage of wetlands and ponds <u>and paddles.</u>	6	Review Delete

Figure 23.13 The 'Order' function in the threats field

If you require a specific threat that is not available in the dropdown options, contact the [BioNet team](#).

23.2.4 Delete threats

Note you cannot delete threats if they are associated with an SoS record. You will get the following warning message.

 **Error! Could not delete Threat data.**
This Profile Threat record cannot be deleted as it is referenced by a threat record in the Save Our Species database.

Users can delete threats.

1. Select a Threat from the list displayed (see Figure 23.14).



Figure 23.14 The list of threats

2. Click on 'Delete' to display a confirmation box.
3. Click on 'OK' or 'Cancel'. If 'OK', the selected Threat is removed from the displayed list (see Figure 23.15).
4. Click on 'Review' for each of the Threats to re-arrange the numbers in the 'Order' field according to how relevant the threat description is to the profile.

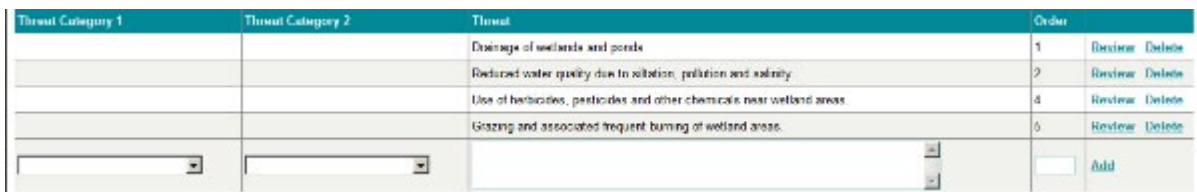


Figure 23.15 The threats list after selected threats are removed

23.3 'Habitat and ecology' tab

Habitat and ecology. Briefly describe the habitat and ecology of the species. The text should be broken into a series of short sentences, each covering a particular aspect of the habitat and ecology of the entity. Each sentence should be added as a separate entry in the database, and each entry will appear as a dot point under the 'Habitat and ecology' heading on the Threatened Biodiversity website. In the 'Order' column, number each sentence to ensure the text will be displayed in a logical order on the website.

23.3.1 New habitat and ecology

Users can add new habitat details to profiles.

1. Click on the 'Habitat & ecology' tab to display that screen (see Figure 23.16).

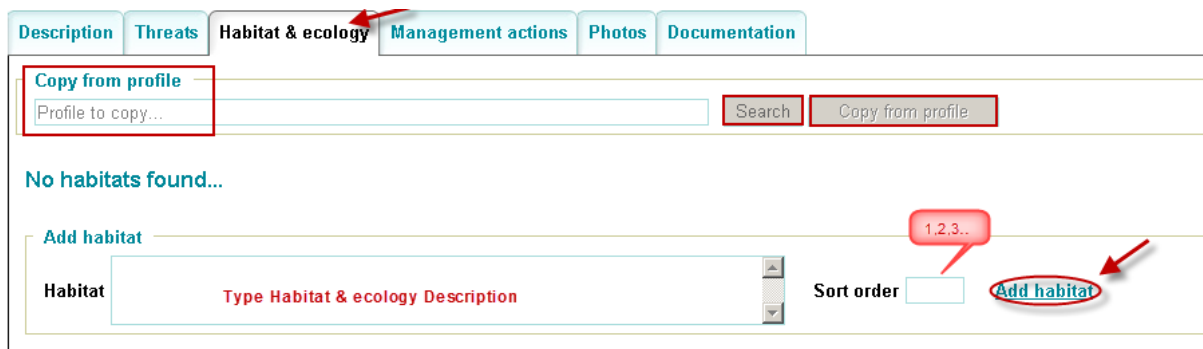


Figure 23.16 The 'Habitat & ecology' tab

2. Type a new description in the 'Habitat' field.
3. Assign a number in the 'Sort order' field according to how relevant the habitat description is to the profile.

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the 'Review' function once the 'Habitat' field has been finalised.

If the 'Sort order field' is left blank, an error message will be displayed.

4. Click on 'Add'. The new description displays (see Figure 23.17).

Habitat	Order	
Permanent freshwater wetlands with tall, dense vegetation	1	Review Delete
<input type="text"/>	<input type="text"/>	Add

Figure 23.17 The new description displayed, and its order

23.3.2 Copy habitat and ecology from another profile

Users can copy across existing habitat details from other profiles for new and existing profiles.

1. Click on 'Search' to display the 'Search for profile' dialog box (see Figure 23.18).

[Close](#)

Search for profile

Kingdom

Scientific name

Profile ID

GeneralType

Common name

ProfileStatus

Figure 23.18 The 'Search for profile' tab

2. Do one or more of the following:
 - Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - Select the type of threatened entity from the dropdown menu in the 'General Type' field.
 - Type in fully or partially the species scientific name in the 'Scientific name' field.
 - Type in fully or partially the species common name in the 'Common name' field.
 - Type in fully or partially the species profile number in the 'Profile ID' field.
 - Select the profile status from the dropdown menu in the 'Profile Status' field to display the list of profiles (see Figure 23.19).
3. Select on the profile from which you want to copy the habitat details. The name of the selected profile displays in the 'Copy from profile' field, and the 'Copy from profile' button becomes available (see Figure 23.20).
4. Click on the 'Copy from profile' button to display all the habitat details from the selected profile.
5. Click on 'OK' or 'Cancel' to display all the habitat details from the selected profile (see Figure 23.21).

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the 'Review' function once the habitat description details have been finalised.

Search for profile

Scientific name Common name

Profile ID

Results 31-40 of 43

1 2 3 4 5

Scientific name	Common name	Profile ID	
Botaurus poiciloptilus	Australasian Bittern	10105	Select
Brachyscome ascendens	Border Ranges Daisy	10108	Select
Brachyscome muelleroides	Claypan Daisy	10107	Select
Brachyscome papillosa	Mossgiel Daisy	10106	Select
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	10109	Select
Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions	Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions	10966	Select
Brogo Wet Vine Forest in the South East Corner Bioregion	Brogo Wet Vine Forest in the South East Corner Bioregion	10110	Select

Figure 23.19 The 'Search for profile' results list

Description Threats **Habitat & ecology** Management actions Photos Documentation

[Copy from profile](#)

Australasian Bittern [Copy from profile](#)

No habitats found...

Add habitat

Habitat

Sort order [Add habitat](#)

Figure 23.20 The 'Copy from profile' option

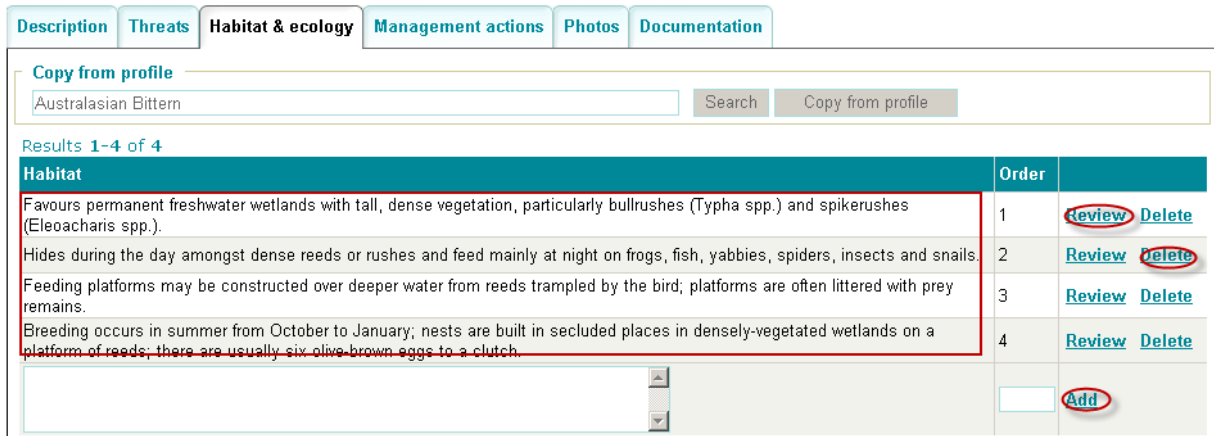


Figure 23.21 The options available after clicking on the 'Copy from profile' button

22.3.3 Review habitat and ecology

Users can review and update the habitat details.

1. Select a 'Habitat detail' from the list displayed.
2. Click on 'Review'. The selected description becomes editable, and 'Update' and 'Cancel' functions will display (see Figure 23.22).

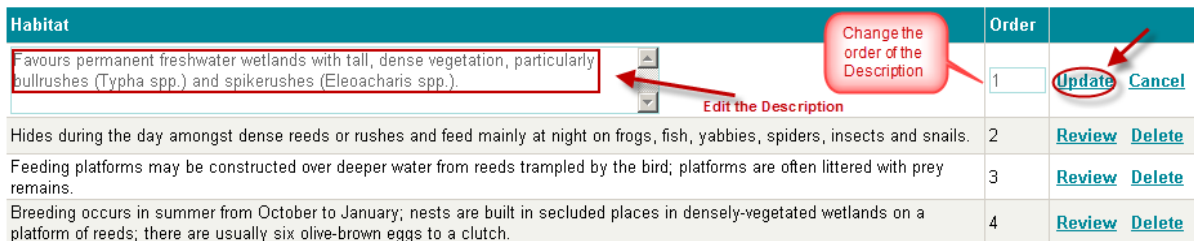


Figure 23.22 The description, 'Update' and 'Cancel' functions when reviewing the habitat and ecology tab

3. Edit the text.
4. Change the number in the 'Order' field, if applicable. Numbering order does not sort itself and must be re-allocated when necessary.
5. Click on 'Update' to display the changes made to the selected habitat detail.
6. Click on 'Update' to save the changes or 'Cancel' to abort the changes (see Figure 23.23).

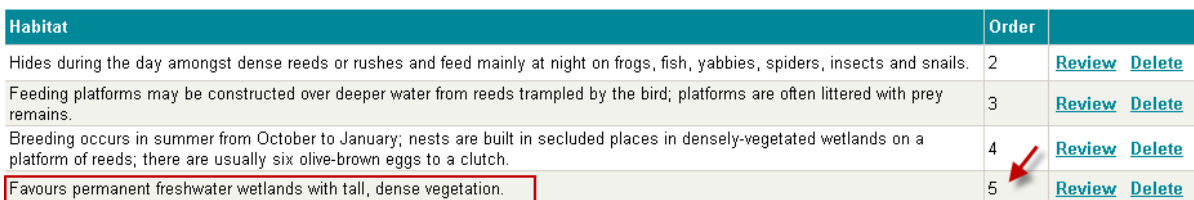


Figure 23.23 The habitat re-ordered

23.3.3 Delete habitat and ecology

Users can delete habitat details.

1. Select a 'Habitat' detail from the list displayed.
2. Click on 'Delete' (see Figure 23.24) to display a confirmation box.

Habitat	Order	
Hides during the day amongst dense reeds or rushes and feed mainly at night on frogs, fish, yabbies, spiders, insects and snails.	2	Review Delete
Feeding platforms may be constructed over deeper water from reeds trampled by the bird; platforms are often littered with prey remains.	3	Review Delete
Breeding occurs in summer from October to January; nests are built in secluded places in densely-vegetated wetlands on a platform of reeds; there are usually six olive-brown eggs to a clutch.	4	Review Delete
Favours permanent freshwater wetlands with tall, dense vegetation.	5	Review Delete

Figure 23.24 The ‘Delete’ option for habitat details

3. Click on ‘OK’ or ‘Cancel’. The selected habitat detail is removed from the list (see Figure 23.25).

Habitat	Order	
Hides during the day amongst dense reeds or rushes and feed mainly at night on frogs, fish, yabbies, spiders, insects and snails.	2	Review Delete
Breeding occurs in summer from October to January; nests are built in secluded places in densely-vegetated wetlands on a platform of reeds; there are usually six olive-brown eggs to a clutch.	4	Review Delete
Favours permanent freshwater wetlands with tall, dense vegetation.	5	Review Delete

Figure 23.25 The re-ordered habitats, with #3 removed

4. Click on ‘Review’ to re-arrange the numbers in the ‘Order’ field according to how relevant the habitat description is for the profile.

23.4 ‘Management actions’ tab

Management category and management details. Information entered in this part of the database appears under the Threatened Biodiversity website heading ‘Activities to assist this species’.

Briefly describe what actions are required to help protect and recover the species. Each management action must be added as a separate entry, and each entry will appear on a list in dot point format on the Threatened Biodiversity website.

Emphasise those actions that landholders and individuals can contribute to. Do not refer to particular sites.

Firstly, select from the dropdown list a relevant ‘Management Category’.

Secondly insert text in the ‘Management details’ field that briefly describes the details of what needs to be done for the entity in relation to the particular management category. If more than one detailed action is required under the same management category, then the management category can be repeated as many times as required.

In the ‘Order’ column, number each management action to ensure the text will be displayed on the website in the order of importance that the action is for recovery of the entity.

Note: A more detailed list of priority actions outlined for each species in the Saving Our Species program can be viewed using the link under the website heading ‘Recovery Strategies’.

23.4.1 New management actions

Users can add new management actions to profiles.

1. Click on the ‘Management actions’ tab (see Figure 23.26).

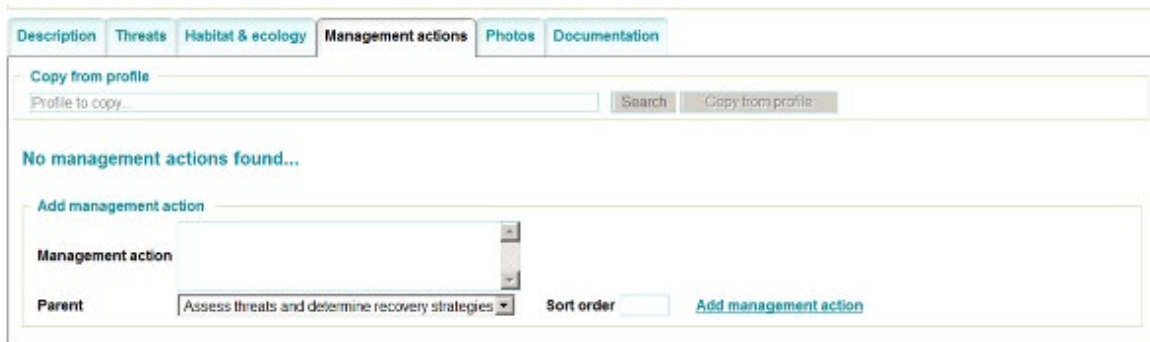


Figure 23.26 The 'Management actions' tab and options

2. Select a management action category from the parent dropdown menu.
3. Type a new description in the 'Management action' field.
4. Assign a number in the 'Sort order' field according to how relevant the management action description is to the profile.

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the 'Review' function once the management action descriptions have been finalised.

If the 'Sort order field' is left blank, an error message will be displayed.

5. Click on 'Add management action' (see Figure 23.27).

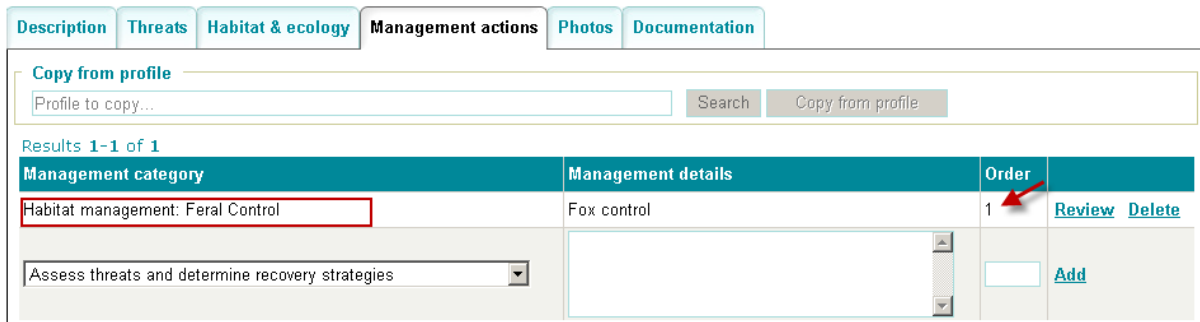


Figure 23.27 The 'Add management action' function

23.4.2 Copy management actions from another profile

Users can copy across existing management actions from other profiles for new and existing profiles.

1. Click on 'Search' (see Figure 23.28).

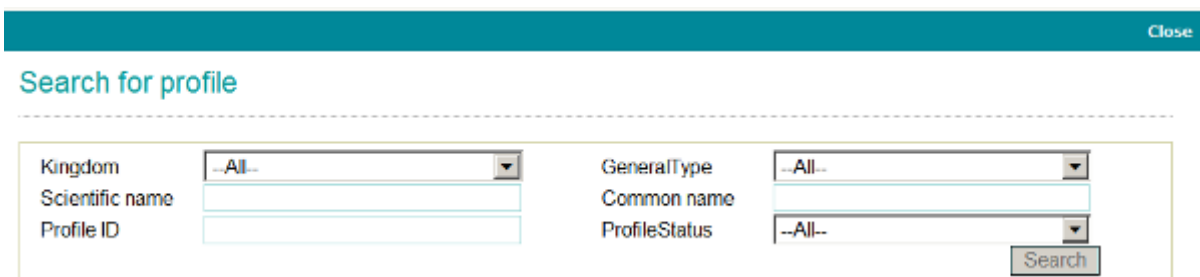


Figure 23.28 The 'Search' box when searching for a profile

2. Do one or more of the following:
 - Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - Select the type of threatened entity from the dropdown menu in the 'General Type' field.
 - Type in fully or partially the species scientific name in the 'Scientific name' field.
 - Type in fully or partially the species common name in the 'Common name' field.
 - Type in fully or partially the species profile number in the 'Profile ID' field.
 - Select the profile status from the dropdown menu in the 'Profile Status' field (see Figure 23.29).

Results 31-40 of 43

Scientific name	Common name	Profile ID	
Botaurus poiciloptilus	Australasian Bittern	10105	Select
Brachyscome ascendens	Border Ranges Daisy	10108	Select
Brachyscome muelleroides	Claypan Daisy	10107	Select
Brachyscome papillosa	Mossgiel Daisy	10106	Select
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	10109	Select
Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions	Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions	10966	Select
Brogo Wet Vine Forest in the South East Corner Bioregion	Brogo Wet Vine Forest in the South East Corner Bioregion	10110	Select

Figure 23.29 The 'Profile Status' field

3. Select on the profile from which you want to copy the management action descriptions. The name of the selected profile displays in the 'Copy from profile' field, and the 'Copy from profile' button becomes available (see Figure 23.30).
4. Click on 'Copy from profile' button.
5. Click on 'OK' or 'Cancel'. If 'OK', all the management action descriptions from the selected profile will be displayed (see Figure 23.31).

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the 'Review' function once the management action descriptions have been finalised (see Section 22.4.1).

Figure 23.30 The 'Copy from profile' box under the 'Management action' tab

Results 1-5 of 5

Management category	Management details	Order	
Habitat management: Feral Control	Undertake fox and feral cat control in and nearby wetlands.	1	Review Delete
Habitat management: Fire	Protect swamps from fire during hazard reduction activities.	2	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Fence wetlands to exclude grazing and trampling by stock.	3	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Protect wetlands and water-courses from pollution.	4	Review Delete
Habitat Protection (inc vca/ jma/ critical habitat nomination etc)	Protect wetlands, ponds and associated marshy areas from clearing or disturbance.	5	Review Delete
Assess threats and determine recovery strategies			<input type="text"/> Add

Figure 23.31 The management categories and management details

23.4.3 Review management actions

Users can review and update the management actions.

1. Select a management action from the list displayed.
2. Click on 'Review'. The selected management action becomes editable; and the 'Update' and 'Cancel' functions will be displayed (see Figure 23.32).

Management category	Management details	Order	
Habitat management: Feral Control	Undertake fox and feral cat control in and nearby wetlands.	1	Update Cancel
Habitat management: Fire	Protect swamps from fire during hazard reduction activities.	2	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Fence wetlands to exclude grazing and trampling by stock.	3	Review Delete

Change the order of the action

Edit management details

Figure 23.32 The review management options function

3. Edit the text.
4. Change the number in the 'Order' field, if applicable.

Numbering order does not sort itself and has to be re-allocated when necessary by selecting the Review function once the Management action details have been finalised.

5. Click on 'Update' to save the changes or 'Cancel' to abort the changes. The changes made to the selected management action will be displayed (see Figure 23.33).

Management category	Management details	Order	
Habitat management: Fire	Protect swamps from fire during hazard reduction activities.	2	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Fence wetlands to exclude grazing and trampling by stock.	3	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Protect wetlands and water-courses from pollution.	4	Review Delete
Habitat Protection (inc vca/ jma/ critical habitat nomination etc)	Protect wetlands, ponds and associated marshy areas from clearing or disturbance.	5	Review Delete
Habitat management: Feral Control	Feral cat control in and nearby wetlands.	6	Review Delete
Assess threats and determine recovery strategies			<input type="text"/> Add

Figure 23.33 The box after the management actions are changed

23.4.4 Delete management actions

Users can delete management actions.

1. Select a management action from the list displayed.
2. Click on 'Delete' to display a confirmation box.
3. Click on 'OK' or 'Cancel'. The selected management action is removed from the displayed list (see Figure 23.34).

Management category	Management details	Order	
Habitat management: Fire	Protect swamps from fire during hazard reduction activities.	2	Review Delete
Habitat management: Site Protection (eg Fencing/Signage)	Protect wetlands and water-courses from pollution.	4	Review Delete
Habitat Protection (inc vca/ jma/ critical habitat nomination etc)	Protect wetlands, ponds and associated marshy areas from clearing or disturbance.	5	Review Delete
Habitat management: Feral Control	Feral cat control in and nearby wetlands.	6	Review Delete
Assess threats and determine recovery strategies			Add

Figure 23.34 The management action re-ordered, and #3 deleted

- Click on 'Review' for each of the management actions to re-arrange the numbers in the 'Order' field according to how relevant the management details are for the profile.

23.5 'Photos' (including audio and video) tab

Photos. Photos included should, if possible, show close-ups of the entity that will assist in its identification in the field, and also show the general habitat. There is no limit to the number of photos that can be included, but usually between two and five should be adequate. A 2 MB limit per photo applies.

If necessary, there are a number of ways to reduce the file size of a photo but perhaps the easiest is to open the original images in Microsoft Office Picture Manager and go to Edit Pictures / Compress pictures for web pages.

The description field should contain a brief caption for each photo and this information will be displayed under the photo on the website.

Ensure that the name of the photographer is entered for each photo and that they have given written approval for the photo to be used for this purpose.

New photos need to be assigned a number in the 'Display sequence' field for them to display on the species profile page. Ensure the desired webpage display sequence has been entered into the 'Display sequence' field.

The 'Profile last updated' date on the profile page does not update when a photo is added.

In relation to the photographer's copyright conditions, there are generally three levels:

- OEH copyright (the OEH image library has full control over the use of the image and no payment to the photographer for future use).
- OEH use for non-profit education purposes. Photographer retains copyright.
- Website use only, photographer retains copyright.

Audio. There is no limit to the number of audio files that can be included. A 2MB limit per file applies. Valid file types include MP3.

Video. There is no limit to the number of videos that can be include. A 2MB limit per video applies. Valid file types include VID.

23.5.1 New images

- Click on the 'Photos' tab to display the photos tab screen (see Figure 23.35).

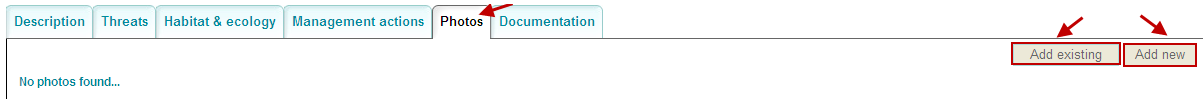


Figure 23.35 The ‘Photos’ tab, and the ‘Add existing’ and ‘Add new’ functions

2. Click on ‘Add new’ to display the new photo dialog box (see Figure 23.36).

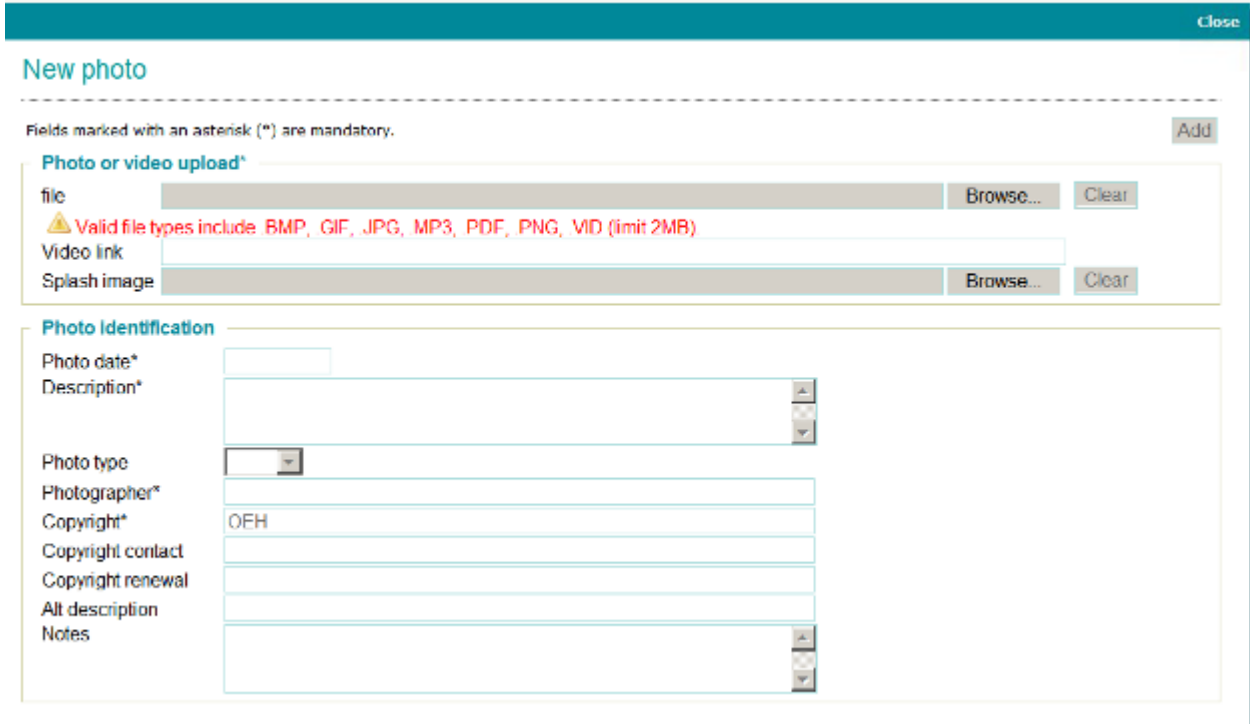


Figure 23.36 The options to upload a new photo

3. Click on ‘Browse’ to search for the directory where the photo, audio, or video files are located.
4. Select the file name you want to attach on from the ‘Look in’ dropdown list (see Figure 23.37).
5. Click on ‘Open’. The file is displayed in the photo upload bar and is highlighted in green (see Figure 23.38).

The ‘Photo Date’, ‘Description’, ‘Photographer’ and ‘Copyright’ are compulsory fields and must be populated. Otherwise, the system will not let you save.

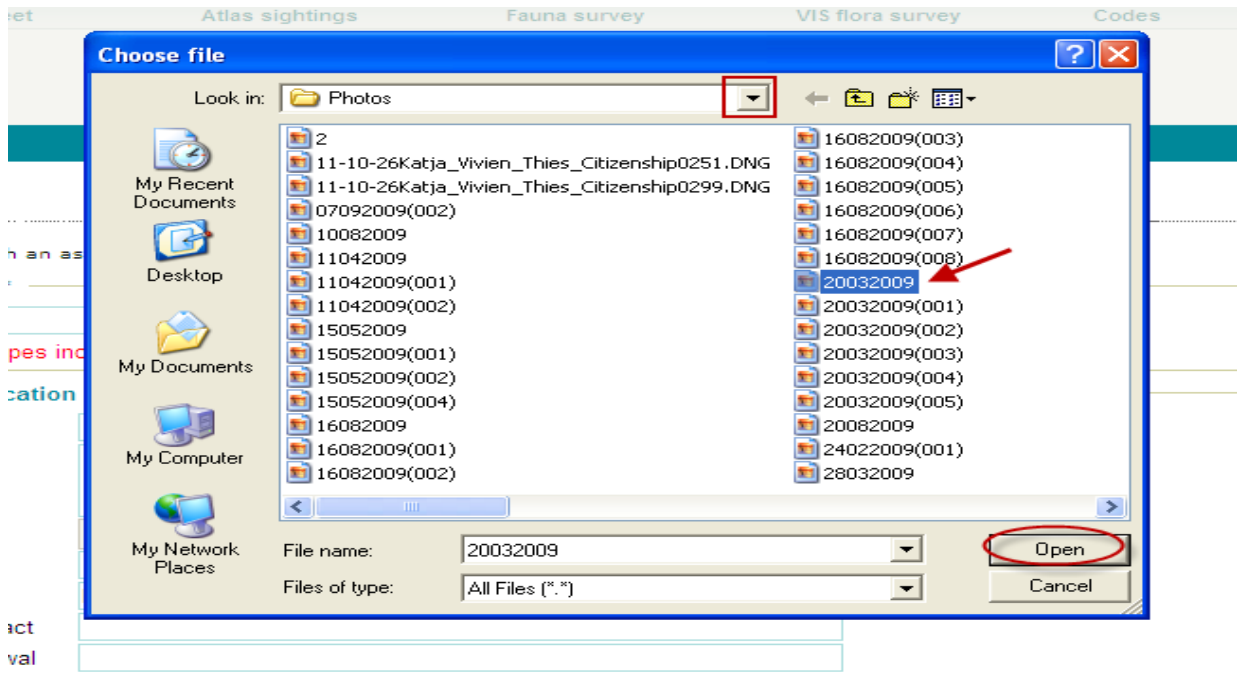


Figure 23.37 The 'Choose file' box

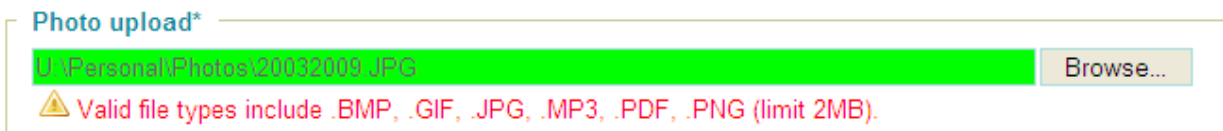


Figure 23.38 The photo upload options

6. Click on 'Add'. The selected photo displays in the photos tab screen (see Figure 23.39).

Numbering order does not sort itself and has to be allocated by selecting the 'Display Seq.' function once the photo has been finalised.


Description	Photographer	Display Sequence	Photo	
Black necked Stork	Threaten Species Site			Review Display Seq. Remove

Figure 23.39 The new photo in the 'Photos' tab

23.5.2 Add existing images

1. Click 'Add existing' to display the 'Search' button (see Figure 23.40).

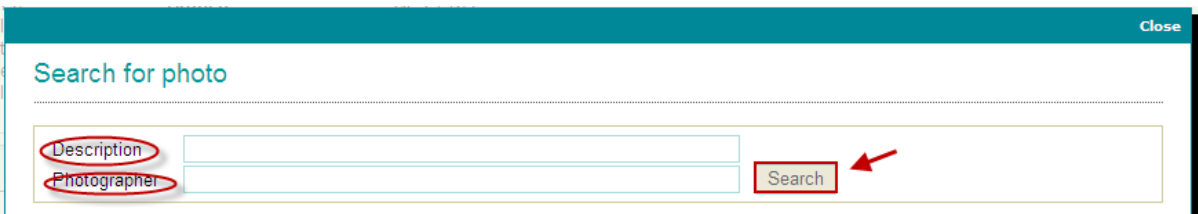


Figure 23.40 The 'Search for photo' function when adding an existing image

2. Do one of the following:

- Type in fully or partially the file description in the 'Description' field.
 - Type in fully or partially the photographer's/owners name in the 'Photographer' field.
3. Click on 'Search'. The list of existing photos is displayed. If the list is more than one page long, the page numbers display on the right side of the screen above the title line.
 4. Select a photo from the list displayed and click on 'Add' (see Figure 23.41). The selected photo displays in the photos screen.

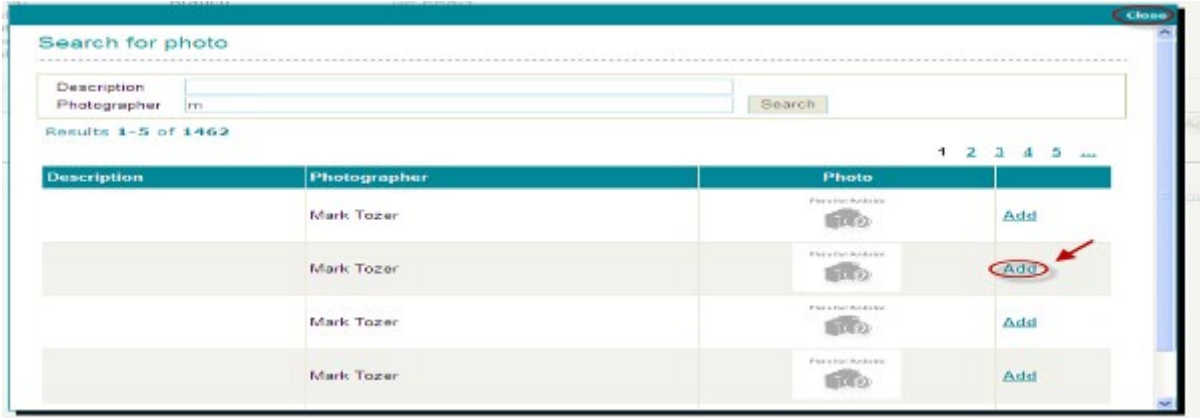


Figure 23.41 The 'Add' button to add an existing photo

Numbering order does not sort itself and has to be allocated by selecting the 'Display Seq.' function once the photo has been finalised.

23.5.3 Review photographs

Users can review and update the photo details and re-organise the order of the photos according to its relevance to the profile (see Figure 23.42).



Figure 23.42 The 'Photo' tab, and the 'Review' and 'Display Seq.' buttons

1. Click on 'Review'. The selected photo becomes available (see Figure 23.43).

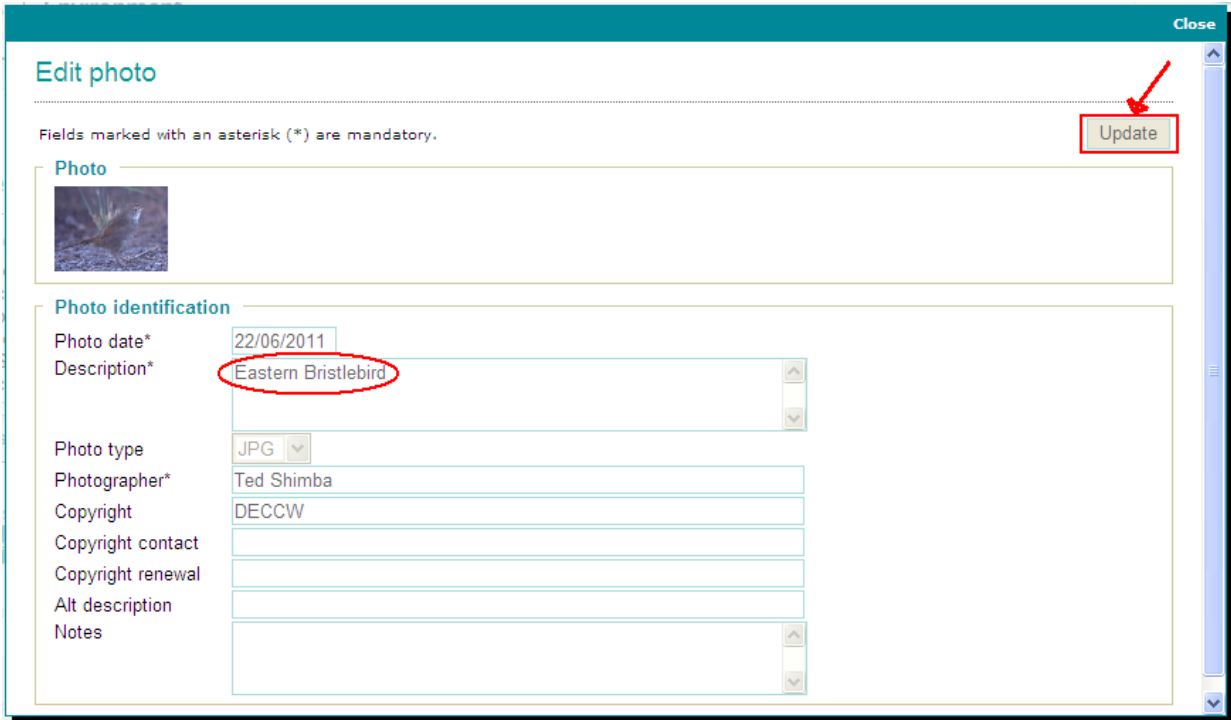


Figure 23.43 The 'Edit photo' box

2. Change the description or another field that needs to be updated.
3. Click on 'Update' to save the changes or 'Close' to abort the changes (see Figure 23.44).

Description	Photographer	Display Sequence	Photo	
Eastern Bristlebird	Ted Shimba	1		Review Display Seq. Remove
Dasy-Brac	Ted Shimba	2		Review Display Seq. Remove

Figure 23.44 The resulting screen after editing the photo details

4. To change the photo order, click on 'Display Seq.' (see Figure 23.45).

Dasy-Brac	Ted Shimba	<input type="text" value="2"/>		Update Cancel
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Figure 23.45 The tab after selecting 'Display Seq.'

5. Change the number in the 'Display Sequence' field.
6. Click on 'Update' to save the changes or 'Cancel' to abort the changes (see Figure 23.46). The display sequence is changed.

If you choose not to display a photo any more, then change the Display Seq. to '0'.

Dasy-Brac	Ted Shimba	1		Review Display Seq. Remove
-----------	------------	---	--	--

Figure 23.46 The photo order changed

23.5.4 Delete images

Users can remove audio-visual and image files that are no longer relevant to the profile from the display list.

1. Select a photo from the display list and click on 'Remove' (see Figure 23.47).
2. Click on 'OK' or 'Cancel'. The selected photo removes from the list displayed in the photos tab screen.

Description	Threats	Habitat & ecology	Management actions	Photos	Documentation
Add existing Add new					
Results 1-2 of 2					
Description	Photographer	Display Sequence	Photo		
Recording © David Stewart Nature Sound by David Stewart 		1	<small>Photo Not Available</small> 	Review	Display Seq. Remove
Powerful Owl	Barry Brown	2		Review	Display Seq. Remove

Figure 23.47 The 'Remove' option, to remove a photo

Any photos removed from a profile are simply decoupled from this profile. The photos are still stored in the system.

If you choose not to display a photo anymore but wish to leave it linked to the profile, then change the display sequence to '0'.

23.6 'Documentation' tab

Documentation

Provide in a suitable format a list of references for further reading on the species. Each reference should be a separate entry to enable correct display as a list on the website.

Before adding new references, please check whether the reference already exists in the database

Establishing a web link for new documents

If your document does not have a web link, you may need to confirm that the document meets the OEH publishing requirements. Go to [Insite](#) (staff only). Log a job via the CSS portal.

This section of the database allows storage of reference information for two documentation types: References (e.g. books, journals) and URLs. These two types display differently on the Threatened Biodiversity website. To ensure urls display on the Threatened Biodiversity website, select 'www' for the 'Type of Publication' field.

Before adding a new document, a user should Search existing documents to determine if the document reference details already exist within the database. If certain it is the same document, then the existing document in the system should be added to the profile. If the document reference details do not exist, then a new documentation record should be created. This will ensure that multiple references to the same document are not contained in the Threatened Biodiversity module.

23.6.1 Search and add existing documentation

1. Click on the 'Documentation' tab.
2. Click 'Add existing' to display the search for document box.
3. Do one of the following:
 - o Type in fully or partially the document's title in the 'Title' field.
 - o Type in fully or partially the author's name in the 'Author(s)' field.
4. Click on 'Search' to display the list of existing documents matching the search criteria (see Figure 23.48).

To differentiate between references and URLs in the display list of existing documents, references always have author and year information, and urls may display author (e.g. flora online) but do not display year.

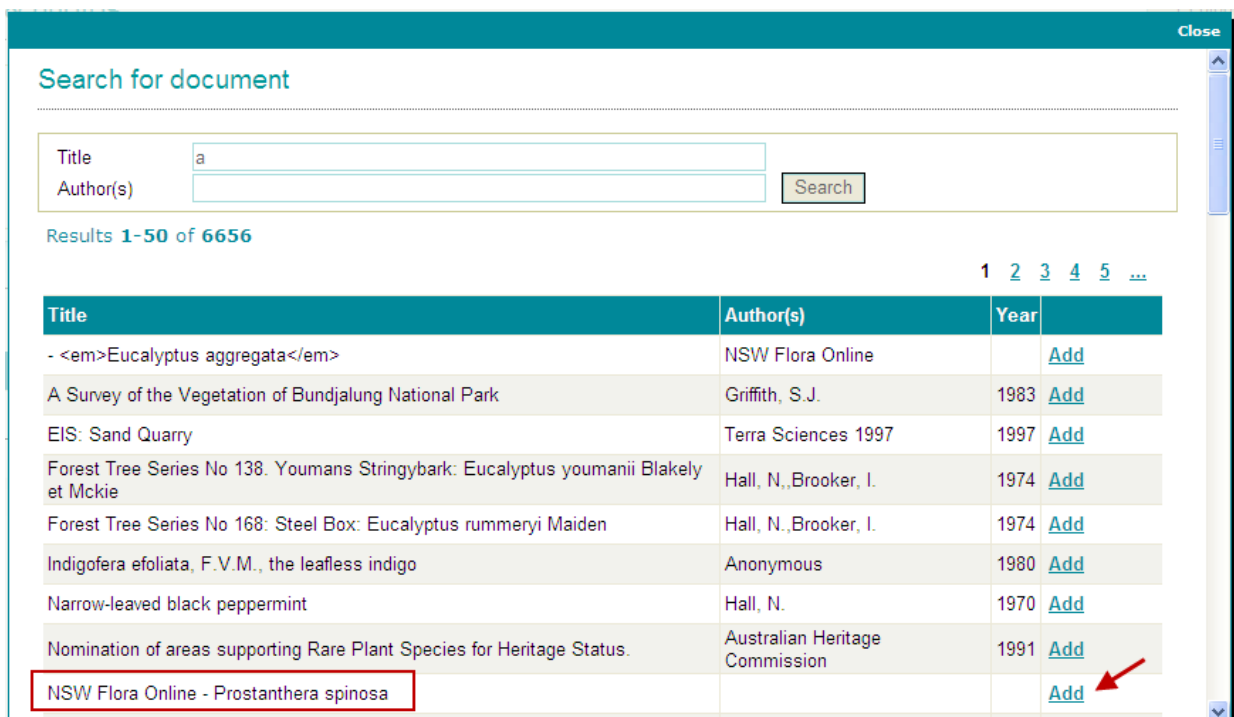


Figure 23.48 The 'Search for document' tab

5. Select a document from the list displayed and click on 'Add'. The document selected displays in the 'Documentation' screen (see Figure 23.49).

To change the documentation order by importance, the documents have to be removed and re-added in the order required.

Document key	Title	Authors	Year	URI	
BTSP00005778	NSW Flora Online - Prostanthera spinosa			http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl...	Review Remove
BEDO11061600	Endangered Koalas	Slim	2010		Review Remove

Figure 23.49 The change documentation (added url)

23.6.2 New documentation

1. Click on the 'Documentation' tab.

2. Click on 'Add' (see Figure 23.50).

Figure 23.50 The 'Add' button, to add a new document to a profile

3. Complete the following compulsory fields:

- title
- author(s)
- type of publication
- year of publication
- URL
- file size.

4. Click on 'Add'. The selected document displays in the documentation screen (see Figure 23.51).

To change the Documentation order by importance, the documents have to be removed and re-added in the order required.

Results 1-1 of 1

Document key	Title	Authors	Year	URI	
BEDO11061600	Endangered Koalas	Slim	2010		Review Remove

Figure 23.51 The added document title and associated information

23.6.3 Review documentation

Users can review and update the document details.

1. Click on Add (see Figure 23.52).
2. Change the title, or any field that needs to be updated.

Figure 23.52 The data fields when adding a new document

5. Click on 'Update' to save the changes or 'Close' to abort the changes.

To change the Documentation order by importance, the documents have to be removed and re-added in the order required.

22.6.4 Remove documentation

Users can remove documents no longer relevant to the profile from the list displayed.

1. Select a document from the list displayed and click on 'Remove' (see Figure 23.53) to display a confirmation box.
2. Click on 'OK' or 'Cancel' to remove the selected document from the list displayed in the documentation tab screen.

Document key	Title	Authors	Year	URI	
BTSP00005778	NSW Flora Online - Prostanthera spinosa			http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl...	Review Remove
BEDO11061600	Endangered Koalas	Slim	2010		Review Remove

Figure 23.53 The 'Remove' button to remove a document from a profile

Any documentation removed from a profile is simply decoupled from this profile. The documentation reference details are still stored in the system.

24. Ecological data

For additional information about any of the data in this section, click on the relevant ‘?’ icon.

After working through sections 23.1.1–23.1.6, click on ‘Save’.

Note that species that are presumed extinct, marine species and some Lord Howe Island species will not have data populated because they are not part of the regulatory framework.

Additionally, some fields will not be editable. These fields relate to particular data that have a significant influence on credit calculations in the BAMC and/or changes require OEH Executive approval. These fields are identified below. A proforma to seek approval to alter these data is outlined in Appendix 4.

The ‘Ecological data’ section contains information on habitat suitability assessments under the Biodiversity Assessment Method (BAM), response to management activities, plant community types (PCT’s) the entity is associated with, any fire conditions the entity is subject to as well as the spatial distribution the entity occurs in. These information tabs and buttons and circled in Figure 24.1.

Ecological data Spatial distribution Descriptive text & photos New search

Profile details			
Profile ID	10616	Branch	North East
Scientific name	Phascolarctos cinereus	Kingdom	Animal
Common name	Koala	Family	Phascolarctidae
Profile type	Species	General type	Marsupials
NSW status	Vulnerable	Commonwealth status	Vulnerable
Accountable officer	John Turbill	Date of final gazettal	

Note: Only users with Profile Assessment Role can modify 'Biodiversity Credit Class', 'Level of Biodiversity Concern' (associated attributes) and 'Serious and Irreversible Impact' values. Please contact bionet@environment.nsw.gov.au to update these fields.

Assessment Response to management Vegetation type RFS

Figure 24.1 Information tabs and buttons available via the ‘Ecological data’ section.

24.1 ‘Assessment’ tab

The ‘Assessment’ tab contains data on habitat suitability assessments under the Biodiversity Assessment Method (BAM), to inform the probability a species will occur on a site. Some (but not all) of these filters occur in the ‘Assessment’ tab. See Section 6 of the BAM for more information. Note experts generating these data consider the predominant response of a species under ‘average’ conditions (i.e. not during drought) across its distribution.

Note: available fields in the ‘Assessment’ tab will vary depending on the species credit class, whether they are full credit species, dual credit species or TEC’s (see 24.1.1 for further details).

Note: ‘dual species credit class’ is captured as ‘species/ecosystem credit class’ in the Assessment tab.

Note: species that are presumed extinct, marine species and some Lord Howe Island species will not have data populated because they are not part of the regulatory framework.

24.1.1 Assessment – ‘Filters’ section

Assessment filters vary for full credit species (see Figure 24.2), dual credit species (see Figure 24.3) and TECs (see Figure 23.4).

The screenshot shows the 'Assessment' tab selected in a navigation bar. Below it, the 'Filters' section is highlighted with a red box. This section lists several filter categories: Biodiversity Credit Class, Patch size, Percent native vegetation cover, Are paddock trees important habitat?, Comments, Habitat Constraint, and General Notes. To the right of these categories are various input fields: a dropdown for 'Species', a dropdown for 'Patch size' set to '< 5 ha', a dropdown for 'Percent native vegetation cover' set to 'relictual (with 10% or less habitat retained)', a dropdown for 'Are paddock trees important habitat?' set to 'No', a dropdown for 'Comments' set to 'Null', and a list of checkboxes for 'Habitat Constraint' including 'Burrows', 'Caves', 'Cliffs', and 'Claypans'. At the bottom, there is a text area with a note: 'The species is critically endangered, any impacts from development could be considered potentially serious and irreversible. Note that this species is difficult to'.

Figure 24.2 The Assessment Filters section for a full credit species (fauna or flora)

Figure 24.3 The Assessment Filters section for a dual credit species (fauna)

Figure 24.4 The Assessment Filters section for a threatened ecological community

Biodiversity credit class

This field will not be editable. Changes proposed to the biodiversity credit class need to be approved by Conservation Programs Branch. Staff should complete the proforma provided in Appendix 4 and submit to the BioNet mailbox for approval.

Biodiversity credits are the currency used to assess biodiversity loss and gain in the BAM. All threatened species or populations in New South Wales must be allocated to one of two biodiversity classes; species credit or ecosystem credit (see Table 24.1). The Class determines the assessment process and offsetting requirements. Note that all threatened ecological communities are an ecosystem credit.

Table 24.1 Biodiversity credit classes and associated definitions for application in BAM.

Credit class	Definition	Criteria
Species credit	The likelihood of occurrence of a species or elements of a species habitat cannot confidently be predicted by vegetation surrogates or landscape features	Species with a low probability of occupying or using any site of apparently suitable habitat, and if present has a reasonable chance of being detected using suitable survey techniques. Species with habitat constraints or elements that cannot be easily replaced or offset by improvements in condition in suitable habitat elsewhere e.g. breeding caves or tree hollows for bats/birds, nest sites for raptors.
Ecosystem credit	The likelihood of occurrence of a species or elements of species habitat can be confidently predicted by vegetation surrogates and landscape features.	Habitat constraints or elements that can be replaced or offset by improvements in condition in suitable habitat elsewhere. Species that are widely distributed, highly mobile or dispersed e.g. spotted-tail quoll, or those that cannot be reliably detected from survey.

Based on these definitions, fauna species may be ‘dual credit’ species where part of their habitat is a species credit (e.g. breeding habitat or mapped ‘core’) and part is an ecosystem credit (e.g. foraging habitat or ‘secondary’ habitat). Dual credit species are **generally** those with critical habitat such as breeding habitat that warrants particular consideration (e.g. cave breeding bats; hollow breeding birds dependent on hollows of particular dimensions/size; species where important habitat has been mapped and mapping approaches are evidence-based). Details should be recorded in the habitat constraints field of the Threatened Biodiversity module of BioNet Atlas (see Habitat Condition Filters a. Habitat constraints, below).

Not all hollow dependent species should be allocated to dual credit classes. For example, species that use small hollows and/or move between hollows regularly, like the Little Lorikeet, can be classed as an ecosystem credit. This species is highly mobile using small hollows for breeding, these hollows are relatively common throughout their foraging habitat (though do they can take more than 20 years to develop) which can be predicted by vegetation and landscape surrogates.

Experts will need to complete particular data fields twice (i.e. habitat constraints), once for the species credit (breeding) and once for the ecosystem credit (foraging) for dual credit species.

Species are allocated to a biodiversity credit class across their entire distribution.

So, what does the credit class actually mean in BAM?

Whether a species is an ecosystem or species credit will influence a number of key elements within the Biodiversity Offsets Scheme. Firstly, it sets the level of

assessment undertaken for a species. Site context and condition filters (see 2. below) are used to estimate the likelihood of occurrence of a species on a site (irrespective of biodiversity credit class). However, ecosystem credit species are assumed to be present on a site if all relevant filters are met (i.e. does not require survey), while species credit species require survey (or an expert report) to confirm presence. If present, then an assessment of the abundance or area of suitable habitat for the species is estimated and used to calculate credit requirements (see Section 6 of the BAM). Where breeding habitat is a species credit, surveys must be targeted to determining breeding (e.g. lactating females, females with young or juveniles).

Secondly, different offset rules apply to ecosystem and species credits. The definition of like-for-like offsets to meet ecosystem credit requirements from a development include any plant community type of the same vegetation class as that impacted by development (within the same IBRA subregion); while species credits must be offset with credits created for the same species as impacted by development (anywhere in the state). Note there are variations to these trading rules.

Patch size

Applies to all fauna species. The patch size class selected is the minimum area of intact native vegetation necessary to support occasional or continual use. A 'patch' is defined in the BAM as an area of intact native vegetation that has a gap of less than 100 metres for woody communities and 30 metres for grasslands between areas of moderate to good condition. A patch may extend into adjoining land that is not part of the site.

The species will be considered unlikely to occur on a site where the target 'patch' of vegetation is less than that of the minimum patch size class selected.

A precautionary approach should be applied when assigning a patch size class to a species. For example, where a species may use a range of patch sizes dependent on vegetation types, select the patch size class that matches the lower end of that range to ensure that the species is adequately considered by the assessment process. Mobile species may be able to use several smaller patches as part of their home range but may not be able to persist in single, isolated patches of the assigned size class.

Species will be filtered in or out depending on their patch size requirements.

1. Choose one of the patch sizes via the dropdown menu.

Percent native vegetation cover

The percentage native vegetation cover class is the minimum area of vegetated habitat (native) a species would be expected to occupy or periodically use. In the BAM, percentage native vegetation cover is an estimate provided by an accredited assessor, using GIS, of the amount of native vegetation in a 1500 metre buffer area surrounding the site (see Section 6 of the BAM). The filter considers the influence of the surrounding landscape when estimating the probability of occurrence of a species on a site.

The percentage native vegetation cover classes are based on the landscape alteration states identified in McIntyre and Hobbs (1999).

A precautionary approach should be applied when assigning a percentage native vegetation cover class to a species. For example, Marbled Frogmouth would score 'intact' as it only occupies large area of continuous native vegetation. This means the Marbled Frogmouth would be removed from the candidate list of species if the percentage native vegetation cover around the site is less than 'Intact'.

Vegetation in arid and semi-arid areas is naturally sparse and patchy. Experts should consider the proportion of the **natural habitat** required by these species when allocating a cover class.

1. Choose one from the dropdown menu.

Are paddock trees important habitat?

Applies to all species. Paddock trees can provide important habitat for some threatened species and will be assessed by the BAM under specific circumstances (see Appendix 1 of the BAM).

Appendix 1 of the BAM defines a paddock tree as:

- the trees located on Category 2 land are surrounded by Category 1 land on the regulatory maps under the Biodiversity Conservation Act.
- the percent foliage cover for the tree growth form group is less than 25% of the benchmark for tree cover for the most likely plant community type.
- it is a tree located more than 50 metres away from any living tree that is greater than 20 centimetres DBHOB (diameter at breast height) and the tree is located on Category 2 land that is surrounded by Category 1 land; or it is in a group of three or fewer living trees within a distance of 50 metres of each other, that in turn, are greater than 50 metres from the next living tree that is greater than 20 centimetre DBHOB and located on Category 2 land that is surrounded by Category 1 land.

1. Select 'Yes' for occupation of paddock trees if they are known to be important habitat (e.g. breeding habitat, used as stepping stones between remnants) for a threatened species.
2. Select 'No' for species that occasionally forage in paddock trees. Most flora species cannot use paddock trees, with the exception of listed threatened tree species that can be a paddock tree such as *Eucalyptus camfieldii* and potentially epiphytes.

Comments

This is a free text field to enter any additional comments about the use of paddock trees e.g. the species may only use paddock trees within X metres of an intact patch of vegetation'.

Habitat constraint

Habitat constraint is one of the two site condition filters used in the BAM. It captures the habitat feature/s required for a species to be present/use a site. It applies to all species but is optional. Multiple constraints can be selected.

Free text should not include descriptions of vegetation types (e.g. grassy woodlands), as vegetation associations are accounted for in the species associations to plant community types filter

A species can be assumed to be absent from a site if, after site assessment, **none** of the listed habitat constraints are present on the site. Where no habitat constraints are listed for a species the filter is not applied and site survey is required.

Given an outcome of the application of this filter is to remove the species from requiring further assessment it should only be populated where experts have greater than 95% confidence in its application. Habitat constraints must be evidence-based (e.g. published literature, documented analysis of known records). **Experts are expected to include references in the 'Notes' field of the template.**

Experts can select from the habitat constraints and provide further details in an open text field. For example, selecting 'caves' from the list and populating the free text box with 'within 200 metres of a riparian zone'; or 'waterbodies' with 'fresh or brackish water only' in the free text; or 'tree hollows' with 'hollows of greater than 20 centimetres in diameter' in the free text box. Where the constraints listed do not adequately describe the habitat feature required by a species the expert can select 'Other' and provide details of the constraint in the free text box.

Dual credit species must have a habitat constraint recorded for at least the species credits component. Experts can also record a habitat constraint for the ecosystem credit component, but this is not essential. The accredited assessor will use this information to determine whether or not the site is likely to support species credit (i.e. breeding individuals, important habitat).

2. Select one or more habitat constraint/s from one of the checkbox fields. There is an 'Other' option, and some space for additional text that further describes the constraint.

Habitat constraint breeding

Applies to fauna species credits (for dual credit species i.e. species/ecosystem credit) but optional. Habitat feature/s required for breeding on site or identified as an important area. There is an 'Other' option, and some space for additional text that further describes the constraint. Species will be filtered in or out depending on the presence of habitat constraints at a site.

3. Select one or more habitat constraint/s from one of the checkbox fields.

Habitat constraint foraging

Applies to fauna ecosystem credits (for dual credit species i.e. species/ecosystem credit) but optional. Habitat feature/s required for a species to be present/use a site. There is an 'Other' option, and some space for additional text that further describes the constraint. Species will be filtered in or out depending on the presence of habitat constraints at a site.

4. Select one or more habitat constraint/s from one of the checkbox fields.

General notes

Applies to all species, endangered populations and threatened ecological communities. Use this field to include information such as references or general notes about the species.

24.1.2 Assessment – ‘Survey’ section

The BAM requires site survey for all species credit species with a high likelihood of occurrence at a site (as determined by the application of filters section – see Section 6 of the BAM).

Months of Survey

Only those months/s that maximise the probability of detection of the target species, assuming the survey is undertaken using an appropriate method, time of day and conditions (as per relevant survey guidelines), should be selected.

Where a species credit relates to breeding habitat experts should record only those month/s breeding females and juveniles can be detected. Similarly, where particular features (e.g. flowers) are required to identify a threatened plant, survey seasons should be restricted to those months when identifiable features are present.

Experts should give justification for the months selected (e.g. survey guidelines, such as the NSW Survey Guidelines for Species Credit Threatened Bats). A precautionary approach should be applied listing only those months when the species is most likely to be detected across its range. Do not record months where the species may be detected in only part of its distribution. Experts can record additional information in the ‘Notes’ section of the template (e.g. shoulder months, differences in survey season during particular environmental conditions or in parts of the species distributions).

All months can be selected if a species has the same probability of detection throughout the year.

Survey months for threatened plant species assessed by area should be restricted to those months that maximise the ability of a plant surveyor to estimate the area the species occupies.

Note this is the same format for dual credit species (fauna) and full credit species (fauna or flora).

‘N/A’ is used for species that are:

- An ecosystem credit species and thus do not require survey.
- A dual credit species where their species credit component is mapped as important habitat and thus does not require survey.

5. Select the month(s) in which survey should be undertaken to maximise the likelihood of detection and the unit of measure (area or individual) (Figure 24.5).

Survey

Months of Survey ?

<input type="checkbox"/> January	<input checked="" type="checkbox"/> June	<input checked="" type="checkbox"/> October
<input type="checkbox"/> February	<input type="checkbox"/> July	<input checked="" type="checkbox"/> November
<input checked="" type="checkbox"/> March	<input checked="" type="checkbox"/> August	<input checked="" type="checkbox"/> December
<input checked="" type="checkbox"/> April	<input checked="" type="checkbox"/> September	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> May		

Unit of measure ?

Figure 24.5 The ‘Months of survey’ options

Months of survey breeding

Applies to all species where biodiversity credit class is ‘species’ or ‘species/ecosystem’. Restrict selection to those months that maximise the likelihood of detecting a species or estimating the area that a species occupies. Refer to ‘Months of Survey’ above, for further details.

Survey

Months of Survey Breeding ?

<input checked="" type="checkbox"/> January	<input checked="" type="checkbox"/> June	<input checked="" type="checkbox"/> October
<input checked="" type="checkbox"/> February	<input checked="" type="checkbox"/> July	<input checked="" type="checkbox"/> November
<input checked="" type="checkbox"/> March	<input checked="" type="checkbox"/> August	<input checked="" type="checkbox"/> December
<input checked="" type="checkbox"/> April	<input checked="" type="checkbox"/> September	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> May		

Unit of measure ?

Figure 24.6 The ‘Months of Survey Breeding’ options

Unit of measure

Applies to all species. For fauna species, the unit of measure will be Area. For flora species, the unit of measure can be Area or counts of individuals.

24.1.3 Assessment – ‘Level of biodiversity concern’ section

Fields in this banner will not be editable. Changes to the biodiversity credit class need to be approved by the Conservation Programs Branch. A proforma to seek approval to alter these data is outlined in Appendix 4.

Note that changes can be made to fields in the ‘sensitivity to loss’ and ‘sensitivity to potential gain’ with the User able to ‘calculate’ how these changes affect the score, however they will not be able to save these changes.

24.1.4 Assessment Level of Biodiversity Concern section fields

Available fields vary for dual credit species (see Figure 24.7), full credit species (see Figure 24.8) and TECs (see Figure 24.9).

Level of Biodiversity Concern

Sensitivity to Loss	Moderate Sensitivity to Loss	View
Justification	Biodiversity Conservation Act listing status	
Sensitivity to Potential Gain Breeding	High Sensitivity to Potential Gain	
Justification	Effectiveness of management in controlling threats	
Sensitivity to Potential Gain Foraging	High Sensitivity to Potential Gain	View
Justification	Effectiveness of management in controlling threats	
Level of Biodiversity Concern Breeding	High	
Biodiversity Risk Weighting Breeding	2.00	

Figure 24.7 The Assessment Level of Biodiversity Concern section fields for dual credit species (fauna)

Level of Biodiversity Concern

Sensitivity to Loss	Moderate Sensitivity to Loss	View
Justification	Biodiversity Conservation Act listing status	
Sensitivity to Potential Gain	High Sensitivity to Potential Gain	View
Justification	Ability to colonise improved habitat	
Level of Biodiversity Concern	High	
Biodiversity Risk Weighting	2.00	

Figure 24.8 The Assessment Level of Biodiversity Concern section fields for full credit species (fauna or flora)

Level of Biodiversity Concern

Sensitivity to Loss	Very High Sensitivity to Loss	View
Justification	Biodiversity Conservation Act listing status	

Figure 24.9 The Assessment Level of Biodiversity Concern section fields for TECs

The BAM uses the ‘level of biodiversity concern’ to evaluate the risks involved in impacting on and offsetting an entity and informs the offset multiplier used in credit calculations. It is comprised of two components:

1. Sensitivity to loss – estimates the increased threat posed to a species from offsetting the loss of habitat or population.
2. Sensitivity to potential gain – estimates the ability of a species to respond to improvements in habitat condition at an offset site.

Component 1 – ‘Sensitivity to loss’

Sensitivity to loss is used to assess the vulnerability of a species to the offsetting scheme. The component considers the impacts on species that will likely lead to, or increase the risk of, extinction should one of the few remaining sites of the species be lost to development; and the increased extinction risk posed to a species from the time-lag between impacts from development and the realisation of ecological benefits from improvements in habitat condition at an offset site.

The sensitivity to loss class for a species is taken from either the:

- Relevant schedule in the NSW Biodiversity Conservation Act (BC Act) or the Commonwealth Environment Protection and Biodiversity Conservation Act, the most threatened status is used to determine the level of biodiversity concern.
- Quantitative assessment of the threatened species against extinction risk criteria (Table 24.2). The ‘sensitivity to loss’ assessment mirrors the more rigorous listing criteria currently used by the NSW Scientific Committee and, therefore, aligns with the IUCN (International Union for the Conservation of Nature) Red List approach. The assessment is particularly relevant to those species that were listed according to the now-superseded criteria under the schedules of the *Threatened Species Conservation Act 1995* (now BC Act).

The threatened status will be automatically populated from legislation. **Experts should only assess a species against criteria in Table 24.2** where:

- Quantitative data are available for the NSW population of the species (e.g. published or grey literature, data, records etc).
- Data indicates the species should be in a different threat status class than provided by its listing under legislation (e.g. BC Act lists the species as Vulnerable, but data indicates the species would meet the criteria listed in the high sensitivity to loss class (Endangered)).

Where there is no data available to assess a species against a criterion, for example the population size in New South Wales of a threatened plant is unknown, experts do not need to assess the species against these criteria and the threat status under the schedules of the BC Act will be applied. Population sizes used in these criteria are taken from IUCN (2016).

Table 24.2 Criteria to allocate a species to a sensitivity to loss class, definitions are relevant to fauna and flora species

Criterion	Options
Geographic distribution	<p>1. Very highly restricted geographic distribution - species that meet this criterion are generally known from less than three locations in New South Wales and/or have an area of occupancy of $\leq 10 \text{ km}^2$, or an extent of occurrence of $\leq 100 \text{ km}^2$.</p> <p>2. Highly restricted geographic distribution - species that meet this criterion are only known from more than three but less than six locations in New South Wales and/or have an area of occupancy of $\leq 500 \text{ km}^2$, or an extent of occurrence of $\leq 5000 \text{ km}^2$.</p> <p>3. Restricted geographic distribution - species that meet this criterion are only known from six or less than ten locations in New South Wales and/or have an area of occupancy of $\leq 2000 \text{ km}^2$, or an extent of occurrence (sensu IUCN 2016) of $\leq 20\,000 \text{ km}^2$</p> <p>‘Location’ is defined as a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the taxon present. The size of the location depends on the area covered by the threatening event and may include part of one or many subpopulations. Where a taxon is affected by more than one</p>

Criterion	Options
	threatening event, location should be defined by considering the most serious plausible threat (IUCN 2001, 2016).
Total Population size	<p>1. Very small population – species with less than 50 mature individuals independent of whether there any threats, or less than 250 mature individuals and the species is in continuing decline.</p> <p>2. Small population size – species with 50 but less than 250 known individuals or has more than 250 and less than 2500 mature individuals and the species is in continuing decline.</p> <p>3. Moderate population size – species with 250 but less than 1000 known individuals or has more than 2500 and less than 10 000 mature individuals and the species is in continuing decline.</p> <p>‘Population’ here is defined as the total number of mature individuals in NSW (IUCN 2001, 2016).</p>
Rate of decline	<p>Population reduction of $\geq 80\%$ in 10 years or three generations (Very high rate of decline) – species with an observed, estimated, inferred, suspected or projected population reduction of $\geq 80\%$ in 10 years or three generations (whichever is longer).</p> <p>Population reduction of $\geq 50\%$ in 10 years or three generations (High rate of decline) – species with an observed, estimated, inferred, suspected or projected population reduction of $\geq 50\%$ in 10 years or three generations (whichever is longer).</p> <p>Population reduction of $\geq 30\%$ in 10 years or three generations (Moderate rate of decline) - species with an observed, estimated, inferred, suspected or projected population reduction of $\geq 30\%$ in 10 years or three generations (whichever is longer).</p> <p>‘Generation’ here is defined as the average age of parents of the current cohort (i.e., newborn individuals in the population). Generation length therefore reflects the turnover rate of breeding individuals in a population (IUCN 2001, 2012).</p> <p>The period of decline can be assessed as recent decline, current decline or projected future decline which is liable to continue unless remedial measures are taken.</p> <p>Different measures may be used to assess reduction in population size including an index of abundance appropriate to the species, or its geographic distribution, habitat quality or habitat diversity.</p>

Component 2 – ‘Sensitivity to potential gain’

The sensitivity to potential gain of a species is used to estimate the ability of a species to respond to improvements in habitat condition based on management actions at an offset site.

A species response to potential gains at an offset site is difficult to predict. A series of qualitative and quantitative criteria relating to life history characteristics, threat management and level of knowledge of a species, are used to allocate each threatened species to one of four sensitivity to potential gain classes (see BAM section 6). Species are assessed against all criteria and the highest class triggered is used to determine the level of biodiversity concern. Threatened fauna and flora are assessed using different criteria (Table 24.3).

Table 24.3 Criteria to allocate a species to sensitivity to potential gain class. Definitions differ between fauna and flora

Fauna/flora	Criteria	Definition
Fauna	Ecology of response to management	Species life history and/or ecology is very poorly known rendering it difficult to determine effective management actions and/or

Fauna/flora	Criteria	Definition
	is poorly known	<p>anticipate the likely response of the species to management applied at an offset site.</p> <p>Species that meet this criterion will generally be those for which there is little to no published literature; actions are targeted towards research rather than management; and/or it is allocated to the Data-deficient management stream, or potentially Partnership management stream, under the Saving our Species program. Examples include the Green-thighed Frog.</p> <p>Experts select 'Yes' or 'No' to this criterion.</p>
	Effectiveness of management actions	<p>Experts select the option that best reflects the ability to manage the most difficult threat to control on a stewardship site i.e. select according to the ability of management actions to overcome the most difficult threat to control. Where 'Threat beyond control' or 'Limited ability to control threat' options are selected, provide a brief description of the key threat driving the selection of the threat category.</p> <p>Experts can select:</p> <ul style="list-style-type: none"> • Threats beyond control³ – species life history traits and/or ecology is known however the ability to control key threats at the site-scale is negligible (e.g. uncontrollable disease, break-down of a species social structure due to population decline). For example, the Southern Corroboree Frog (threatened by chytrid fungus). • Limited ability to control threats – species for which there is a limited ability to control a key threat at the site-scale. Examples include species primarily threatened by predation from feral species (fox and cat) or pigs. Techniques to control foxes, cats or pigs have variable success at the site-scale and/or are highly resource intensive. This class can also be selected where some threats may be unknown. • Moderate ability to control threats – species for which there is a moderate ability to control a key threat at the site-scale. Examples include species threatened by inappropriate fire regimes or feral herbivores (e.g. goats and rabbits). • Good ability to control threats – species for which there is a good ability to control a key threat at the site-scale.
	Dependent on slow developing attribute	<p>Species should only be assessed as dependent on slow developing attributes such as tree hollows or logs, or non-responding attributes such as caves or escarpments if a critical component of the life cycle involves use of such a habitat attribute. Experts can select:</p> <ul style="list-style-type: none"> • Non-responding attributes⁴ – species is dependent on highly specific habitat requirements that cannot be recreated or replaced at a biodiversity stewardship site. Examples include

³ Land clearing does not meet this criterion (i.e. the threat can be controlled but for political, social or economic reasons may be allowed). Impacts of climate change are not currently considered under the BAM, however this is under review, as adaptation needs of species become clearly understood they will be incorporated in the Biodiversity Offsets Scheme. Where climate change is considered a threat to a species this can be included in the 'Notes' section of the database.

⁴ This does not include waterways as these features are subject to other assessment processes and protective measures under the EP&A Act.

Fauna/flora	Criteria	Definition
		<p>caves, escarpments or other habitat features that are irreplaceable.</p> <ul style="list-style-type: none"> • Very slow responding attributes – species dependent on attributes that take decades (greater than 20 years⁵) to provide the required improvements in habitat condition. Examples include bird and bat species dependent on tree hollows for breeding and/or roosting, reptiles dependent on small rock crevices or fissures. • Slow responding attributes – species dependent on attributes such as large trees, logs and other large woody debris, soil decompaction, or some slow growing vegetation (e.g. in arid areas). Examples include ground-dwelling fauna reliant on woody debris >10cm in diameter, reptiles and small mammals dependent on mature chenopods in arid environments. <p>Expert can select 'Not dependent'.</p>
	Faunal dispersal distance	<p>Dispersal is the passive or active movement, usually one way on any time scale, of organisms from their point of origin to another location where they may subsequently produce offspring (Allaby 1994). The intent of the criterion is to assess the capacity of a species to recolonise stewardship sites in landscapes that are likely to have been subject to various levels of past clearing.</p> <p>Experts can select:</p> <ul style="list-style-type: none"> • Disperse <100m and/or specific corridor or vector requirements – species with a limited ability to colonise improved habitat have a lower capacity to recolonise new or improved habitat areas on an offset site, including from the surrounding landscape. A short dispersal distance is taken as <100m and specific requirements must be evidence-based. • Disperse between 100m and 10km – species with moderate ability to colonise improved habitat are able to disperse between 100m and less than 10km. • Disperse >10km – species able to colonise improved habitat. <p>Dispersal differs from home range (the area within which an animal normally lives) and generally occurs at the juvenile stage of an animal's life and/or in response to a disturbance (e.g. fire). Distances are affected by habitat condition and degree of fragmentation, for example frogs will disperse further during a wet year, small mammals will disperse further through contiguous vegetation compared to fragmented habitat⁶. Experts should use a precautionary approach when considering this criterion.</p>
	Fecundity	<p>Ability to reproduce and hence influence the potential for a species to populate improved habitat on an offset site.</p> <p>The average age at which females first produce, experts can select:</p> <ul style="list-style-type: none"> • > 4years • 2-4 years • < 2years

⁵ Gain is assessed over 20 year timeframe (see Section 12 of the draft BAM).

⁶ Here it is assumed that dispersal will occur through a fragmented landscape, as this question relates to the capacity of fauna to recolonise offset areas in landscapes that are likely to have been subject to various levels of past clearing.

Fauna/flora	Criteria	Definition
		<p>Average number of offspring produced annually per adult female, experts can select:</p> <ul style="list-style-type: none"> • < 1 per year⁷ • 1-3 • 4-9 • 10-100 • > 100 <p>In general categories 1, 2 and 3 are designed for K-strategists and categories 3, 4 and 5 for R-strategists. Experts should consider the average number of offspring produced in a normal year, under the most common environmental conditions. For example, when assessing 'boom and bust' species (i.e. those that respond to environmental disturbance with a significant increase in abundance), consider the average number of offspring produced by a female in a typical year (not 'boom' year).</p>
	High order predator	<p>These are species for which the majority of their diet is vertebrate prey. The ability to increase carrying capacity of higher order predators at an offset site is dependent on ability of prey populations to also increase as a result of improved habitat conditions, based on management actions.</p> <p>Experts select 'Yes' or 'No' to this criterion.</p>
Flora	Ecology or response to management is poorly known	<p>Species life history and/or ecology is very poorly known rendering it difficult to determine effective management actions and/or anticipate the likely response of the species to management applied at the site-scale.</p> <p>It could be argued any species listed as threatened should meet this description, however, species in this category will generally be those for which there is little to no published literature; actions are targeted towards research rather than management; and/or it is allocated to the Data-deficient management stream, or potentially Partnership management stream, under the <i>Saving our Species</i> program.</p> <p>Experts select 'Yes' or 'No' to this criterion.</p>
	Effectiveness of management actions	<p>Experts can select:</p> <ul style="list-style-type: none"> • Threats beyond control⁸ – species life history traits and/or ecology is known however the ability to control key threats at the site-scale is negligible (e.g. uncontrollable disease). • Limited ability to control threats – species for which there is a limited ability to control a key threat at the site-scale (e.g. Phytophthora, or high threat exotic plants⁹). • Moderate ability to control threats – species for which there is a moderate ability to control a key threat at the site-scale. <p>Examples include species threatened by inappropriate fire</p>

⁷ This criterion assesses the ability of a species to increase in abundance at a stewardship site. Species that produce very few offspring will take a long time to realise any ecological benefits from improved habitat conditions at an offset site. The average number reared is not considered as it is dependent on many environmental factors, including limitations of carrying capacity of currently occupied habitat.

⁸ Land clearing does not meet this criterion (i.e. the threat can be controlled but for political, social or economic reasons may be allowed).

⁹ High threat exotic plant cover is defined as plant cover composed of vascular plants not native to Australia that if not controlled will invade and outcompete native plant species. Also referred to as high threat weeds. See [BAM Calculator](#) for list of species.

Fauna/flora	Criteria	Definition
		regimes, other exotic plants (not high threat) feral herbivores (e.g. goats and rabbits). <ul style="list-style-type: none"> • Good ability to control threats – species for which there is a good ability to control a key threat at the site-scale.
	Species dependent on habitat attributes	Species dependent on habitat attributes – where a species is dependent on highly specific habitat requirements that cannot be recreated Experts select ‘Yes’ or ‘No’ to this criterion.
	Recruitment – strategy	Species that are sterile or largely clonal, or generally resprout rather than set seed, severely limit a species ability to increase the existing population on, or occupy new habitat at, an offset site. Recruitment strategy, experts can select: <ul style="list-style-type: none"> • Species that are sterile or largely clonal species¹⁰ • Species usually resprouts and only occasionally sets seeds • Species that resprouts and sets seeds • Species usually or always sets seeds.
	Recruitment – quantity of viable seeds produced annually per mature individual	Species that produce very low numbers of viable seed is likely to severely limit the species ability to increase the existing population on, or occupy new habitat at, an offset site. Estimated average quantity of seed produced (per year across all mature individuals in a population), experts can select: <ul style="list-style-type: none"> • <50 seeds • in the 100s • in the 1000s
	Recruitment – age at first significant flowering	Average age of first significant flowering event (estimated from the time at which the species can be expected to start producing quantities of seed that are likely to be sufficient to enable recruitment to occur under suitable conditions ¹¹), experts can select: <ul style="list-style-type: none"> • > 10 years • 5 – 10 years • < 5 years • N/A (e.g. clonal species)
	Ability to colonise improved habitat	Species with very short propagule dispersal distances have a restricted ability to colonise onto new or improved habitat provided at an offset site, experts can select: <ul style="list-style-type: none"> • Disperse near the adult plant • Disperse beyond the adult plant but within the population • Wide dispersal – outside the population • N/A (e.g. clonal species).
	Seedbank persistence	Species with transient seedbanks are less able to withstand temporary poor conditions (e.g. drought), experts can select: <ul style="list-style-type: none"> • seedbank is transient in the canopy (0 – 2 years)

¹⁰ These species have no or very limited capacity to increase number through seed production and recruitment; usually have very limited genetic diversity and exhibit restricted ability to occupy new ecotypes in response to changes in environmental conditions (e.g. *Zieria baeuerlenii* and *Hakea pulvinifera*).

¹¹ In the case of some species a few individuals are known to commence production of a small number of flowers and very small quantities of seed for a few to several years prior to the main population reaching an age of significant seed production, this is not the age of first significant flowering.

Fauna/flora	Criteria	Definition
		<ul style="list-style-type: none"> seedbank is transient in the soil (0 – 2 years) seedbank is persistent (serotinous canopy or soil) > 2 years N/A (e.g. clonal species).
	Senescence age (lifespan)	Species with a limited lifespan are less able to withstand temporary poor conditions (e.g. drought). Experts can select: <ol style="list-style-type: none"> < 1 year 1 – 5 years > 5 years

To calculate the level of biodiversity concern (see Figure 24.10):

1. On the ‘Sensitivity to loss’ line, click on ‘View’ and answer the questions in the dropdown menus (see Figure 24.10). Fields relating to listing status will be auto-populated from the species profile information.
2. Click on ‘Calculate’ to continue with the calculation or ‘Close’ to exit the record.
3. Click on ‘Save’ to save the changes or on ‘Close’ to exit the record.

Close

Sensitivity to Loss - Calculate

Listing Status under NSW Biodiversity Conservation Act ?

Listing Status under Environmental Protection and Biodiversity Conservation Act

Geographic Distribution ? ▼

Total Population Size ? ▼

Rate of Decline ? ▼

Sensitivity to Loss

Justification

Figure 24.10 The ‘Sensitivity to loss’ calculation box

4. The ‘Justification’ will be auto-populated based on the answers provided in steps 1–3.

5. On the 'Sensitivity to loss' line, click on 'Calculate' and answer the questions in the dropdown menus (see Figure 24.11).
6. Click on 'Calculate' to continue with the calculation or 'Close' to exit the record.
7. Click on 'Save' to save the changes or on 'Close' to exit the record.

Note that changes can be made to fields in the 'sensitivity to loss' and 'sensitivity to potential gain' pop-up, with the User able to 'calculate' how these changes affect the score, however they will not be able to save these changes.

Changes to the 'sensitivity to loss' and 'sensitivity to gain' pop-ups need to be approved by the Conservation Programs Branch (see Appendix 4 for the proforma and Figure 21.3 for the workflow).

8. For any changes to the values in the 'Sensitivity to loss' pop-up, refer to the workflow in Figure 21.3.
9. Note that '0' in the Environmental Protection and Biodiversity Conservation Act means the species is not listed under this legislation. Also 'none' in the three proceeding fields merely indicates that the User has not entered data here because it would not increase the 'sensitivity to loss' score generated by the BC Act listing status.

Sensitivity to Potential Gain (Fauna) - Calculate

Ecology or response to management is poorly known	?	No
Species dependent on habitat attributes		Slow Developing attributes
Comments		Habitat required develops slowly (e.g. tall groundcover/midstorey cover) in ar
Effectiveness of Management in controlling threats		Limited ability to control threats
Comments		Fox and cat control can be difficult.
Ability to colonise improved habitat	?	Disperse between 100m and 10km
Fecundity - most frequent age at which females first produce	?	< 2 years
Fecundity - average number of offspring produced per female per year	?	1 - 3
High order predator	?	No

Sensitivity to Potential Gain

Justification

Figure 24.11 The 'Sensitivity to potential gain (fauna)' calculation box

10. The 'Justification' will be auto-populated based on the answers provided in steps 5–6.
11. The 'Level of biodiversity concern' and 'Biodiversity risk weighting' are auto-populated based on the answers provided in the previous steps (see Figure 24.12). Note further information on these fields is found in section 6 of the [Biodiversity Assessment Method](#).

Level of Biodiversity Concern

Sensitivity to Loss	<input type="text" value="Very High Sensitivity to Loss"/>	<input type="button" value="Calculate"/>
Justification	Biodiversity Conservation Act listing status	
Sensitivity to Potential Gain	<input type="text" value="High Sensitivity to Potential Gain"/>	<input type="button" value="Calculate"/>
Justification	Effectiveness of management in controlling threats	
Level of Biodiversity Concern	Very High	
Biodiversity Risk Weighting	3.00	

Figure 24.12 The ‘Level of Biodiversity Concern’ box with some of the fields auto-populated from the calculations data

24.1.5 Assessment - Serious and irreversible impacts (SAIL) section

Fields in this banner will not be editable. Changes to the biodiversity credit class need to be approved by the Conservation Programs Branch A proforma to seek approval to alter these data is outlined in Appendix 4.

Note that changes can be made to fields in the ‘sensitivity to loss’ and ‘sensitivity to potential gain’ with the User able to ‘calculate’ how these changes affect the score however they will not be able to save these changes.

The fields vary between dual/full credit species (see Figure 24.13) and TECs (see Figure 24.14).

Serious and Irreversible Impacts

SAIL Breeding	<input type="text" value="No"/>
Threshold Type	<input type="text" value="N/A"/>
Threshold	<input type="text"/>

Figure 24.13 The Assessment Serious and Irreversible Impacts section fields for dual credit species (fauna) and full credit species (fauna or flora)

Serious and Irreversible Impacts

SAIL	<input type="text" value="Yes"/>
Threshold	<input type="text"/>
Threshold Condition	<input type="text"/>

Figure 24.14 The Assessment Serious and Irreversible Impacts section fields for TECs

The SAIL is calculated based on the level of biodiversity concern (Section 23.1.3) (see Figure 24.15):

1. Select the threshold type from the ‘Threshold type’ dropdown menu. Depending on your selection, the population of the threshold may be limited.
2. Type in the threshold information in the ‘Threshold’ box.

Serious and Irreversible Impacts

SAll ? Yes

Threshold Type ?

Threshold ?

Figure 24.15 The SAll box

Appendix 7 of the Biodiversity Assessment Method (BAM) provides the offset multiplier matrix, which applies the highest Sensitivity to Loss and Sensitivity to Potential Gain fields calculate the Biodiversity Risk Weighting for an entity.

24.2 ‘Response to management’ tab

The Response to management tab was purpose built to capture details around an entities response to various management scores for previous legislation (*Native Vegetation Act 2003*). At present, the Response to management tab does not contain updated informative data and has not been updated to fit the current legislative framework. Further work is required to determine its usefulness for the current legislation.

24.3 ‘Vegetation type’ tab

Table 24.4 describes the different features found under the ‘Vegetation type’ tab.

Table 24.4 Vegetation type features

Vegetation type tab	Description
Vegetation Types	<p>‘Vegetation Type’ is used as an initial filter in predicting species at sites. This field is used to associate each threatened species with relevant vegetation types in each IBRA Region.</p> <p>Data can be entered by using the menu bar in the editing tool to either display just those PCTs that occur in a selected IBRA Region, or by using the option to display all PCTs for New South Wales.</p> <p>Simply tick the boxes of those PCTs that the species is likely to use.</p> <p>Expert advice on appropriate PCTs for the species may need to be sought, as this is not any easy task and often requires good field knowledge of the species or of the habitats in which it occurs.</p> <p>Detailed descriptions of each PCTs are provided in the BioNet Vegetation Classification database.</p> <p>As mentioned, PCTs are used as an initial filter in predicting species at sites. Therefore, be careful not to overpredict occurrences in PCTs in which the species has low likelihood of occurrence. Particular care should be taken when associating TECs with PCTs to ensure that only those vegetation types which accord with the Scientific Committee Determination are selected.</p>

24.3.1 Add PCTs to profiles

1. Click on the ‘Vegetation type’ tab (see Figure 24.16).
2. Click on ‘Add PCT’ (see Figure 24.16).

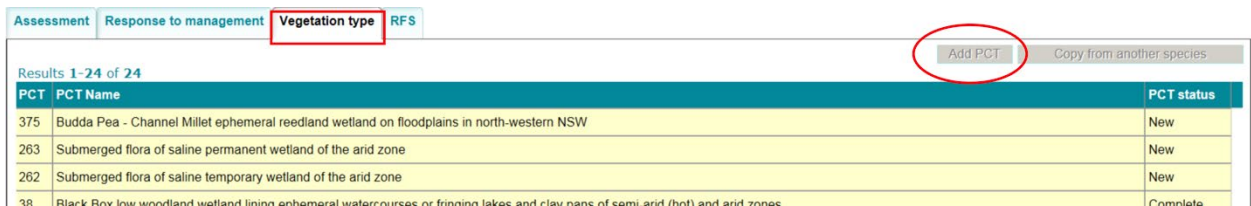


Figure 24.16 The 'Vegetation type' tab

3. Do one or more of the following (see Figure 24.17):
 - Select the Vegetation Formation name from the dropdown menu in the 'Vegetation Formation' field.
 - Select the Vegetation Class name from the dropdown menu in the 'Vegetation Class' field.
 - Type in the PCT ID in the 'Plant community type ID' field.
 - Select the profile status from the dropdown menu in the 'Status' field.
4. Click on 'Search'.

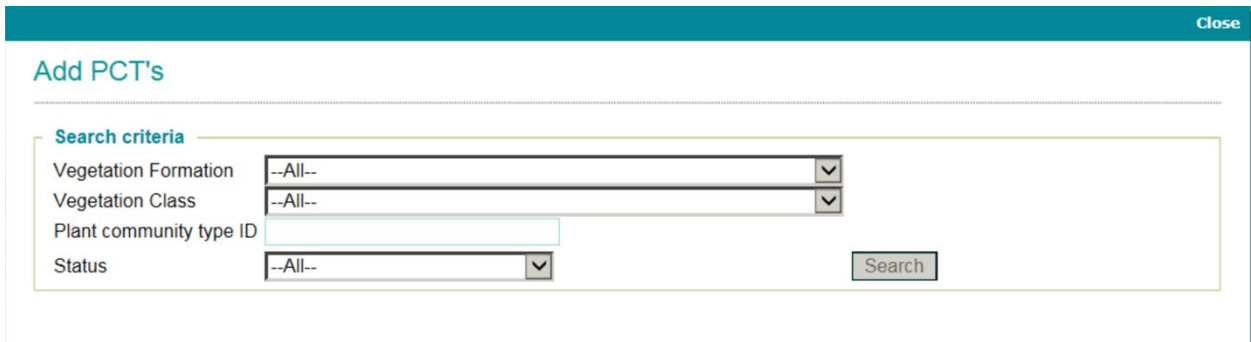


Figure 24.17 The 'Add PCT' box

5. Do one of the following (see Figure 24.18):
 - Tick individual PCTs deemed to be relevant to the species.
 - Tick 'All'.

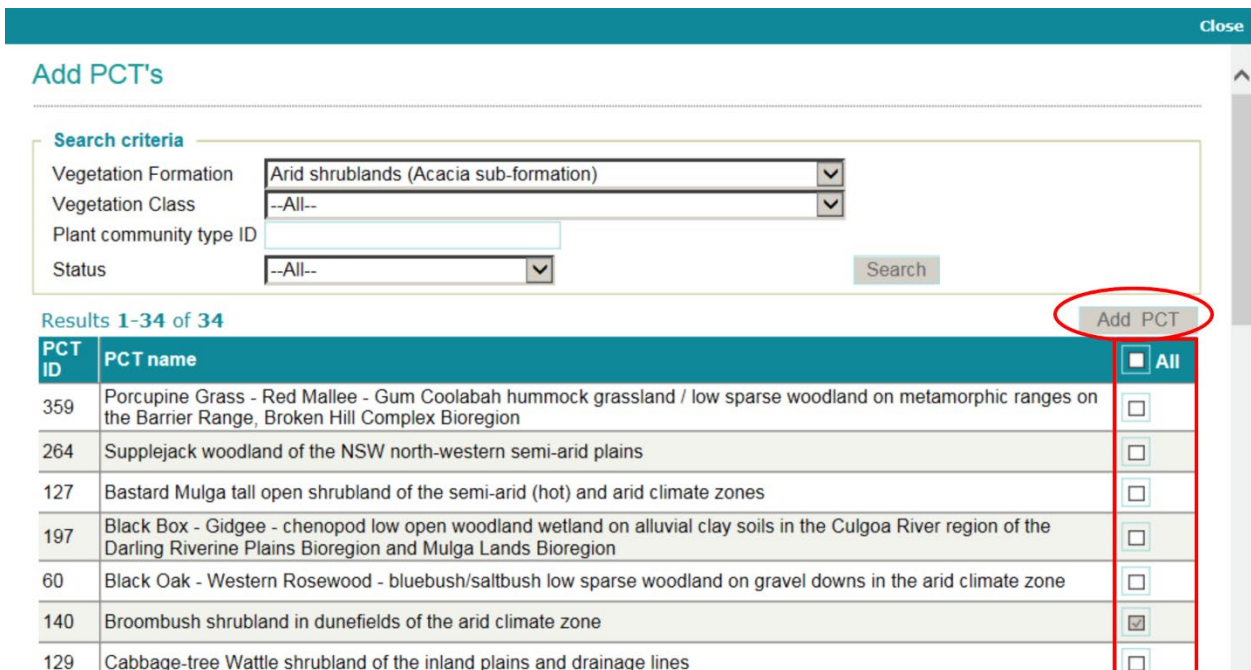


Figure 24.18 The PCTs available to add to a profile

6. Click on 'Add PCT'. All the selected PCTs will be displayed in the 'Vegetation type' screen.

24.3.2 Copy PCTs from another profile

1. Click on 'Copy from another species' (see Figure 24.19).



Figure 24.19 The 'Copy from another species' function

2. Do one of the following (see Figure 24.20):
 - o Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - o Select the type of threatened entity from the dropdown menu in the 'GeneralType' field.
 - o Type in fully or partially the species scientific name in the 'Scientific name' field.
 - o Type in fully or partially the species common name in the 'Common name' field.
 - o Type in fully or partially the species number in the 'Profile ID' field.
 - o Select the profile status from the dropdown menu in the 'ProfileStatus' field.

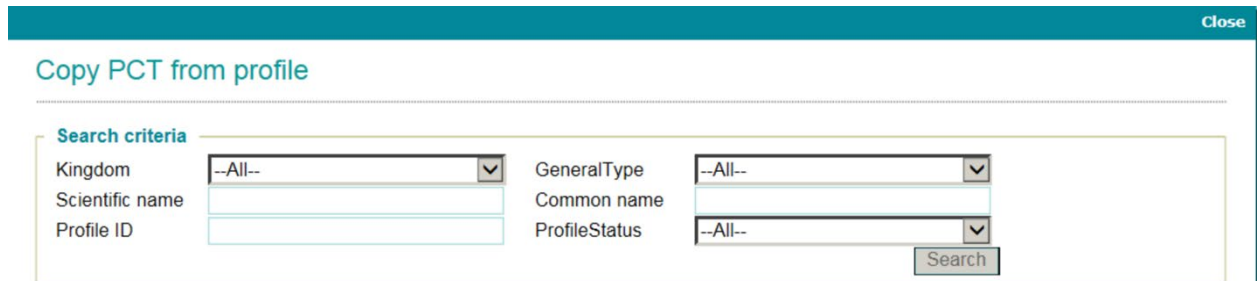


Figure 24.20 The 'Copy PCT from profile' box

3. Click on 'Search'. The list of vegetation types matching the search criteria will be displayed.

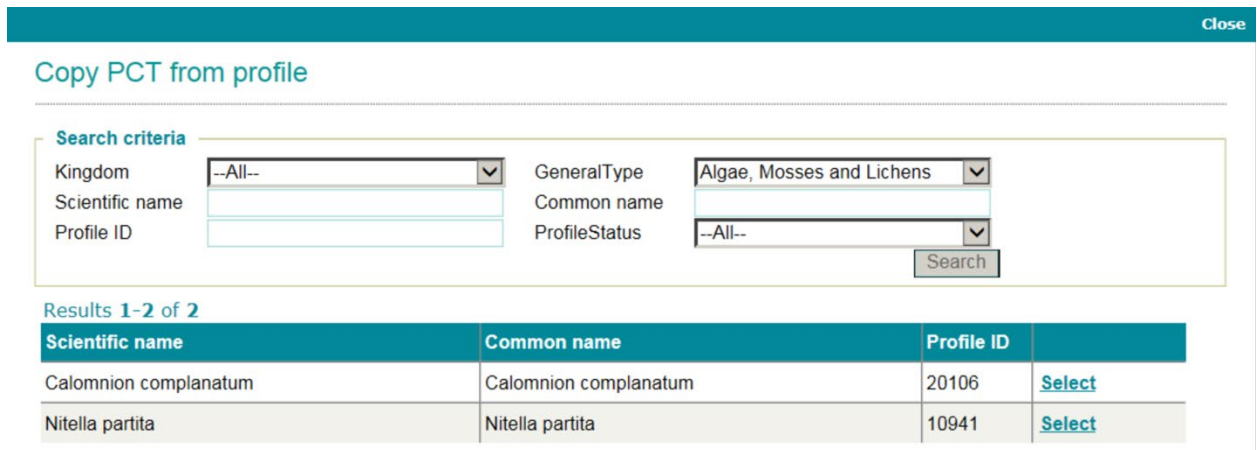


Figure 24.21 The PCT that match the search criteria

4. Select the profiles from which the vegetation types will be copied to your profile. The list of vegetation types will be displayed (see Figure 24.22).

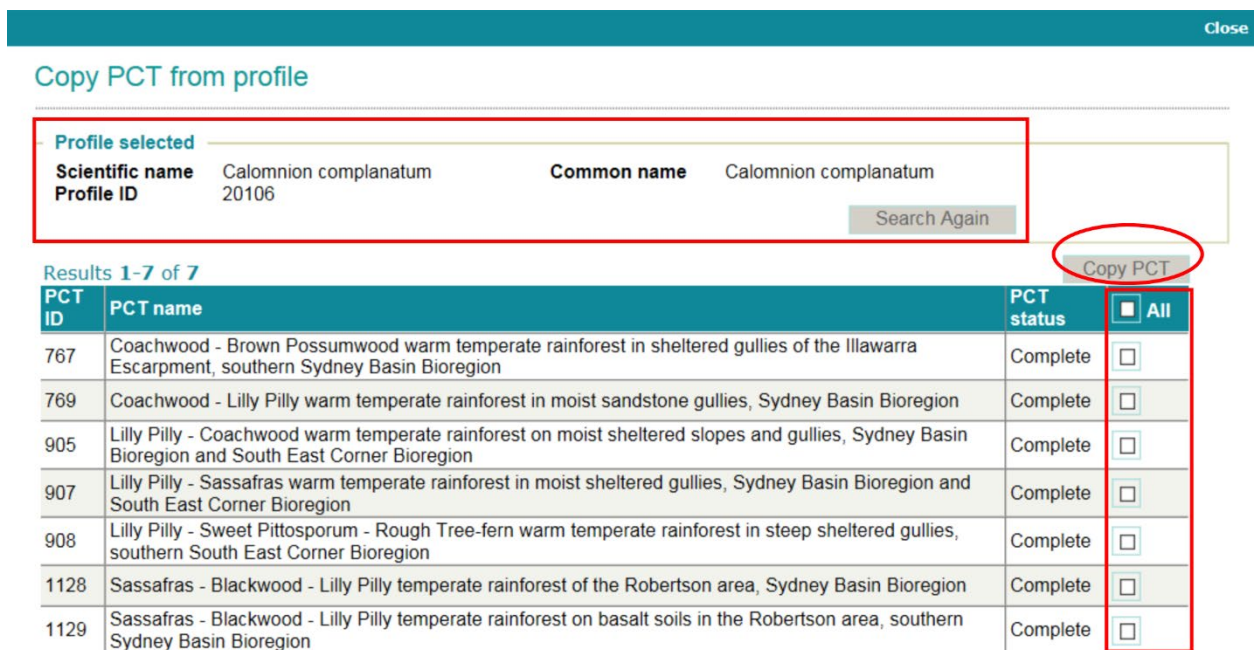


Figure 24.22 The list of vegetation types available to copy

5. Do one of the following:
 - o Tick individual PCTs deemed to be relevant to the species.
 - o Tick 'All'.
6. Click on 'Copy PCTs'. All the selected PCTs will be displayed in the vegetation type screen.

24.3.3 Review PCTs

Users can review the previously selected PCTs (see Figure 24.23).

1. Select a PCT from those displayed and click on 'Review'. The PCT becomes available.

PCT	PCT Name	PCT status	Review
375	Budda Pea - Channel Millet ephemeral reedland wetland on floodplains in north-western NSW	New	Review
359	Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland / low sparse woodland on metamorphic ranges on the Barrier Range, Broken Hill Complex Bioregion	New	Review
263	Submerged flora of saline permanent wetland of the arid zone	New	Review
262	Submerged flora of saline temporary wetland of the arid zone	New	Review
264	Supplejack woodland of the NSW north-western semi-arid plains	New	Review
127	Bastard Mulga tall open shrubland of the semi-arid (hot) and arid climate zones	Complete	Review

Figure 24.23 The ‘Vegetation type’ and the ‘review’ options

2. Type the reason for the change (see Figure 24.24).

PCT	PCT Name	PCT status	Review
783	Coastal freshwater swamps of the Sydney Basin Bioregion	New	Review
781	Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion	Complete	Review
782	Coastal freshwater meadows and forblands of lagoons and wetlands	Complete	Review

Figure 24.24 The box to list reasons for change to the PCT

3. Click on ‘Delete’ or ‘Cancel’. A confirmation box will be displayed asking if you are sure you want to make that change.
4. Click on ‘Yes’ or ‘No’. The selected vegetation type will be removed.

When adding PCTs to a profile, the system will automatically add the IBRA Regions not included already included in the dropdown list in the IBRA Region to edit.

24.4 ‘RFS’ (Rural Fire Service) tab

The Rural Fire Service ‘RFS’ tab contains details about fire sensitive species. This information refers to the Threatened Species Hazard Reduction List of the [Bushfire Environmental Assessment Code](#).

24.4.1 Add Threatened Species fire hazard reduction information

This tab has a control imposed to prevent inadvertent edits which will impact the Rural Fire Service Programs.

Accountable officers requiring edits to information in the RFS tab are required to forward details to the BioNet team. BioNet will follow up with RFS for approval by the committee overseeing the [Bushfire Environmental Assessment Code](#). Only approved changes are to be made in the RFS tab and can only be made by users with Maintenance Role.

25. Spatial distribution

The spatial distribution component of profiles within the Threatened Biodiversity module has been set up as an editable layer and as such it is only visible to users with 'Threatened Biodiversity Edit' access and Administrative users.

25.1 Background

All threatened biodiversity profiles are assigned a spatial distribution. It is important to ensure distribution maps are created for new species profiles, as well as to periodically review and update distribution maps. This ensures any records for this species entered into BioNet Atlas are available, otherwise the records will be placed in quarantine and as such will not be released to other agencies for planning and other purposes. An overview of Spatial distribution is discussed in Part E Validation and Quarantine of this user manual. However, the process for dealing with spatial distribution of threatened species differs, so warrants a more detailed discussion here. For a summary workflow on maintenance of spatial distribution, refer to Figure 21.5 spatial distribution layer and Figure 21.6 Quarantine dashboard.

25.1.1 Quarantine

To reduce the likelihood of incorrect records being added to BioNet Atlas, the database checks against the species accepted distribution layer as well as for potential duplicates. Each record is assigned a status:

- Valid and accepted without modification (V).
- Invalid, in quarantine (I).

The reason the record failed is stored in the 'Validation flags' field; either ACD (accepted distribution) or DUP (potential duplicate). Invalid records need to be reviewed and the status field updated to one of the following:

- Accepted as Valid from Quarantine (Q).
- Rejected as certainly incorrect (R).
- Suspect (S).
- Vagrant or escaped animal, or planted specimen (G).
- Valid record from population that is no longer extant (X).

The status for each record can be updated manually (via the 'Species Sightings' module), or automatically updated in some circumstances after the spatial layer is edited.

25.1.2 How are spatial distributions determined for threatened entities?

For populations, communities and key threatening processes this is set up by BIST at the time of the Scientific Committee determination. For species, the Accountable Officer is required to assign and periodically review and update the spatial distribution by selecting appropriate IBRA subregions against each profile. All species and populations are assigned a spatial distribution, indicating where the species is known or predicted to occur within each IBRA subregion.

Historically, the process to review and quarantine any records based on distribution layers was the same for both threatened and non-threatened entities. However, with a growing number of records held in quarantine awaiting review, and distribution maps requiring ongoing review and maintenance, there was a need to enhance the process for threatened biodiversity.

For threatened entities listed on the *Biodiversity Conservation Act (BC) 2016*, the spatial distribution layer for each entity is based on Interim Biogeographic Regionalisation of Australia (IBRA) subregions and it is comprised of 'Known' and 'Predicted' occurrence values for IBRA subregions (see example Figure 25.1). These layers are maintained by the Accountable Officer, EaTS.

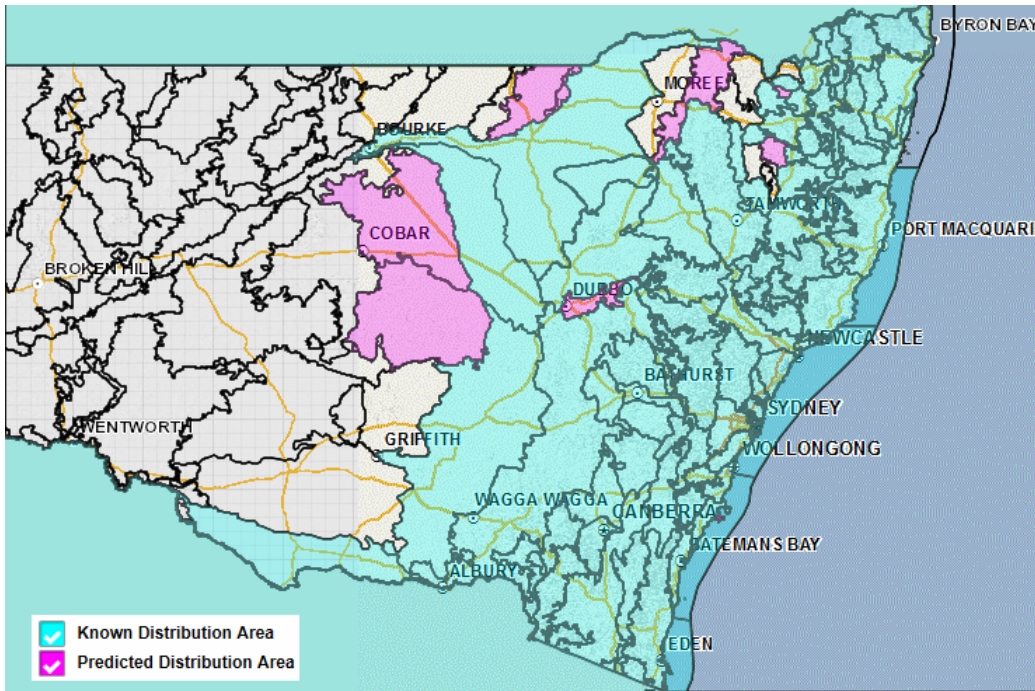


Figure 25.1 Known and predicted distribution of the Tiger Quoll (*Dasyurus maculatus*)

From late 2017 the spatial distribution was synchronised with records so that distributions are now updated automatically based on records. While the Accountable Officer can still manually flag an IBRA subregion polygon for a species as either 'Known' or 'Predicted', the value selected is irrelevant as the polygon will store an IRBA subregion value based on whether there are existing records in that polygon that meet certain requirements.

Occurrence

For each IBRA subregion, there are two occurrence values:

- 'K' (Known) where there are confirmed records, specimens or otherwise verified sightings.
- 'P' (Predicted) where there is a high expectation by relevant experts that a species is likely to be present in the subregion, based on known presence of suitable habitat and distribution within adjoining subregions. Subregions should not be added as predicted distribution simply because they adjoin other subregions with known occurrence.

However, which value is selected is irrelevant as the polygon will store an IBRA subregion value based on whether there are existing records in that polygon that meet certain requirements.

That is, where IBRA subregion has at least one valid record (Status = V or Q) with an accuracy of <10,000m, assigning an occurrence value (of either K or P) to the polygon will cause the Occurrence value for the polygon to automatically be marked as Known. Any subsequent records added to that IBRA subregion, regardless of the accuracy value, will automatically be assigned a status of V (Valid).

Similarly, if the sole record for an IBRA subregion were edited such that it no longer met the requirements (e.g. the accuracy edited to >10,000m or the status changed to 'R' (Rejected) or 'S' (Suspect)), the Occurrence value will automatically revert to Predicted, and all future records would be saved to Quarantine (Status = 'I'), until a record was manually edited that met the requirements (i.e. Status = 'V' or 'Q' and accuracy < 10,000m).

Note: BAM utilises both Known and Predicted distributions and doesn't distinguish between them.

Geographic restrictions

Geographic restrictions describe geographic limits to the distribution of a species within an IBRA subregion. The information further refines the distribution of a species optimising predictions of species occurrence at a site thereby minimising unnecessary survey (species credits) or offset requirements (ecosystem credits). For example, a threatened species may be limited to altitudes above 1000 metres in a particular IBRA subregion, therefore the species is considered highly unlikely to occur on a development site below this altitude and can be removed from the candidate list of species.

Experts should use the field sparingly (i.e. only where there is greater than 95% confidence in its application) and justify the constraint through the provision of evidence (e.g. published literature, documented analysis of known records). It is likely to be relevant to only a subset of species.

Where the expert determines the constraint meets these requirements the description of the constraint should be restricted to:

- a defined altitude
- latitudes or longitudes
- topographic features that are **easily identified** (e.g. named large permanent waterbodies, mountains)
- specified local government areas.

Descriptions such as 'west of town X' are open to interpretation and therefore not appropriate. Vegetation types and habitat features are not geographic restrictions but should instead be included in species associations with plant community types or habitat constraints, respectively (see below).

Different geographic restrictions can be described for different IBRA subregions across a species distribution. Experts do not need to list all the IBRA subregions the species occurs in; these data are captured by distribution data (see Section 2.1.1).

25.2 Update Spatial Distribution

Guidelines and considerations for updating spatial distribution

- Only one subregion can be edited at a time, as the two fields ‘Occurrence’ and ‘Geographic restrictions’ are directly associated with this field.
- To assist in determining which subregions are appropriate, use the Scientific Committee Determination, BioNet Atlas records, other literature and expert advice.
- Automatic updates will not be immediately visible in the mapper, however if you reload the mapper, the records will be marked with the new status.
- Historically, records from external agencies bypassed our validation rules and were imported and accepted as valid. From 2017, records from these external datasets are now subject to the same validation rules.

Warnings

- Mapper may fail to load the very first time it is called. If you get a frozen empty white box, close the box and click on the Spatial Distribution to load it a second time.
- Mapper can be slow and temperamental. You may have to click a polygon a few times before something happens.

Ecological data 59:21 [Reset timer](#)

Spatial distribution
Descriptive text & photos
New search

Profile details

Profile ID	10105	Branch	South West
Scientific name	Botaurus poiciloptilus	Kingdom	Animal
Common name	Australasian Bittern	Family	Ardeidae
Profile type	Species	General type	Birds
NSW status	Endangered	Commonwealth status	Endangered
Accountable officer		Date of final gazettal	05/11/2010

Note: Only users with Profile Assessment Role can modify 'Biodiversity Credit Class', 'Level of Biodiversity Concern' (associated attributes) and 'Serious and Irreversible Impact' values. Please contact bionet@environment.nsw.gov.au to update these fields.

Assessment Response to management Vegetation type RFS

Filters

Biodiversity Credit Class ? Ecosystem ▼

Figure 25.2 Ecological data tab showing location of Spatial distribution button

1. Click on ‘Spatial distribution’ to display the Spatial mapper for the selected profile.

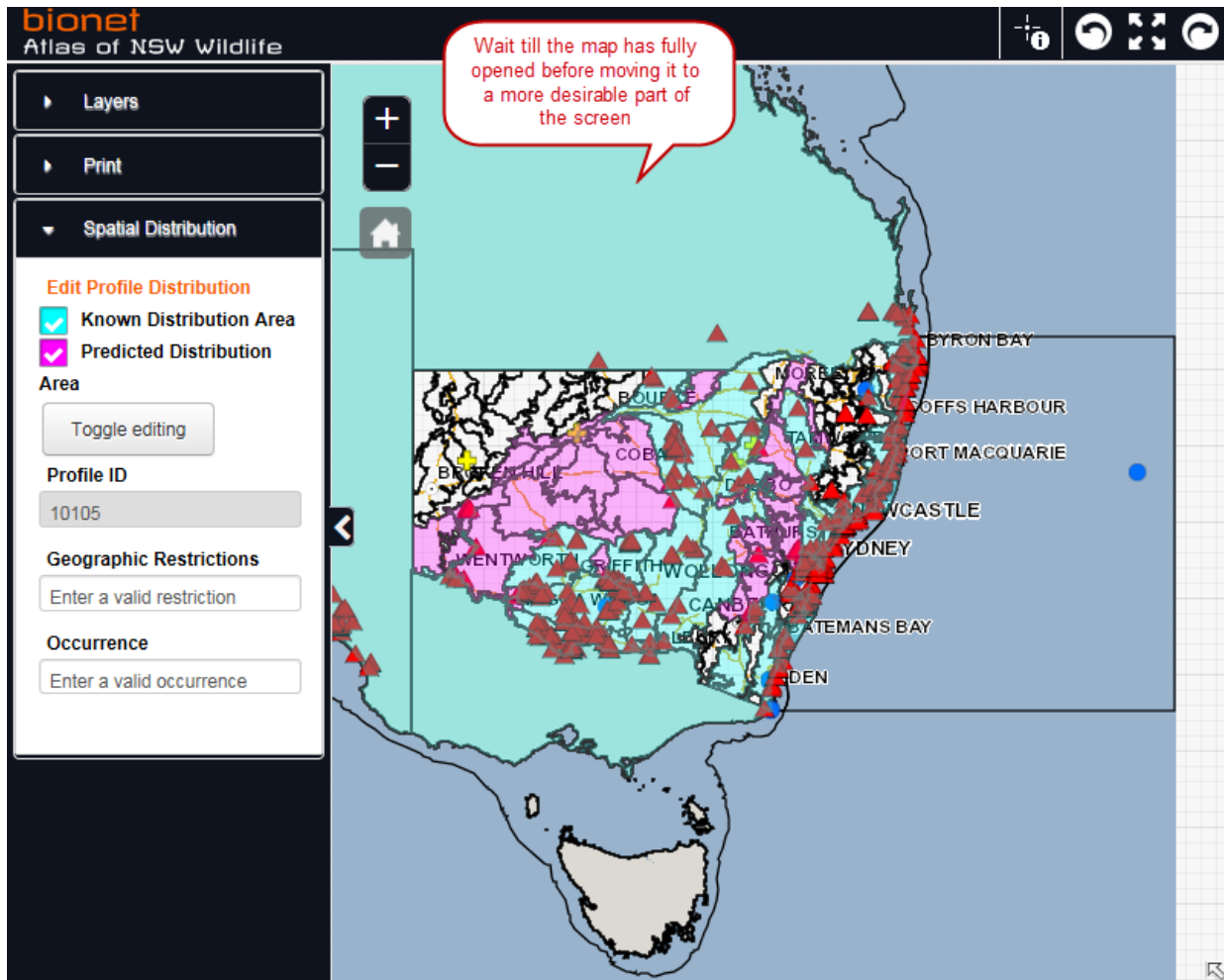


Figure 25.3 The spatial mapper for an example species displaying correctly

If the new window is only partially displayed, let the map fully download before moving this new window to the centre of the screen, or attempting to access the information on it.

2. Click on the Layers dropdown menu. Then use the scroll down bar to ensure all layers are listed.

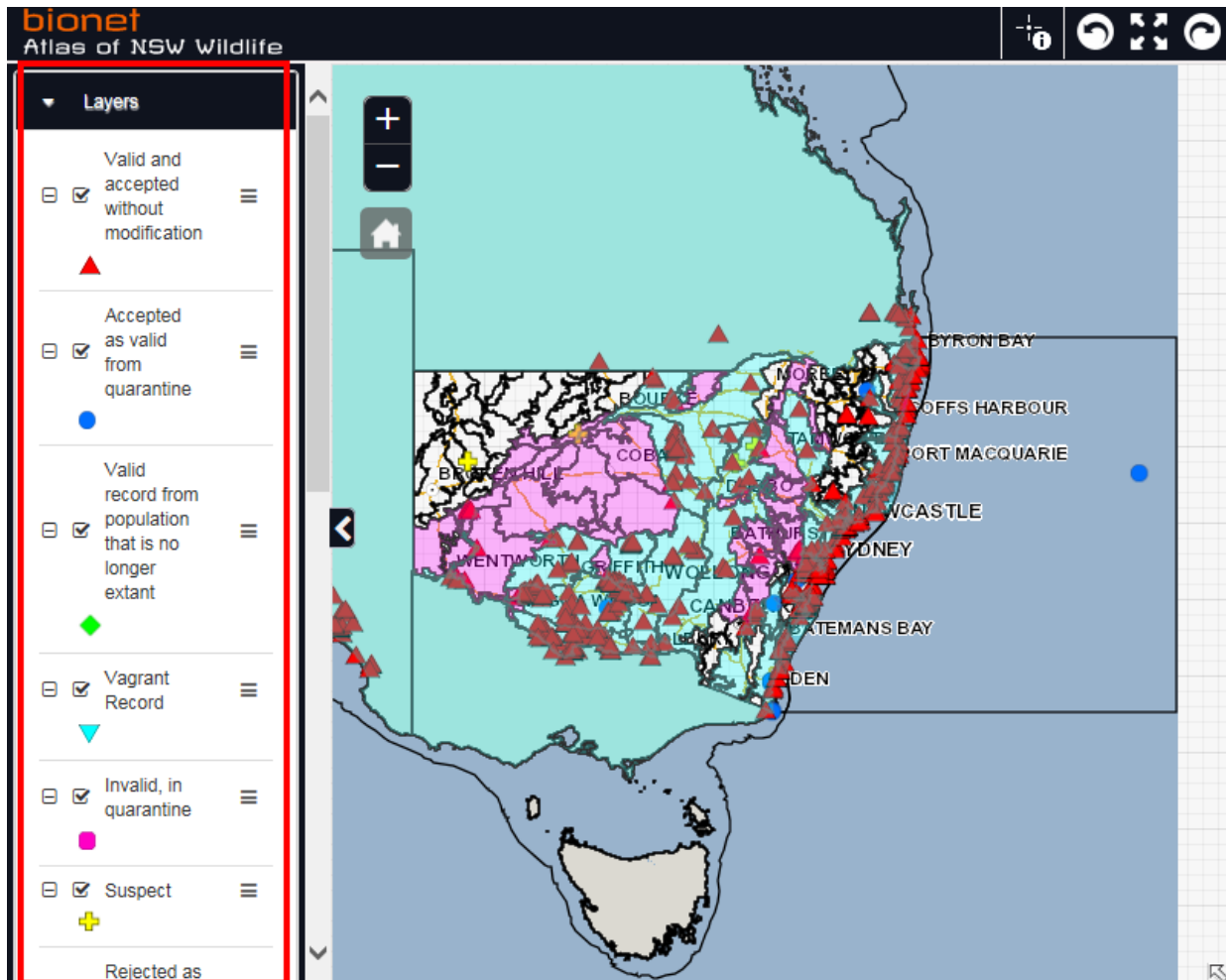


Figure 25.4 The layers dropdown menu, from the Legend, displaying correctly

If the map displays an error message or does not display all symbols under the layers dropdown as well as known and predicted distribution area in the legend, it means the map has not downloaded the data properly. Close the map and re-open it again.

3. To maximise the window, either click on the maximise icon, or double click in the blue banner of the spatial mapper window.

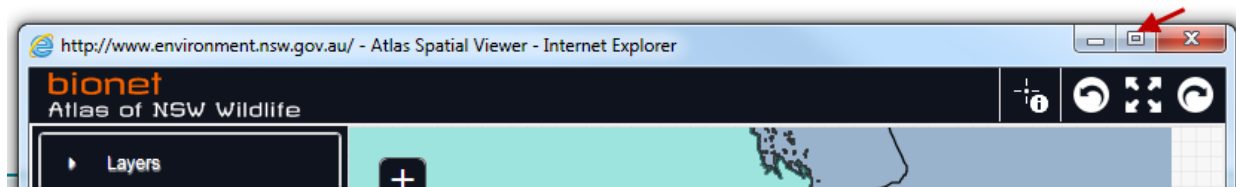


Figure 25.5 Location of maximise icon on Spatial Viewer window

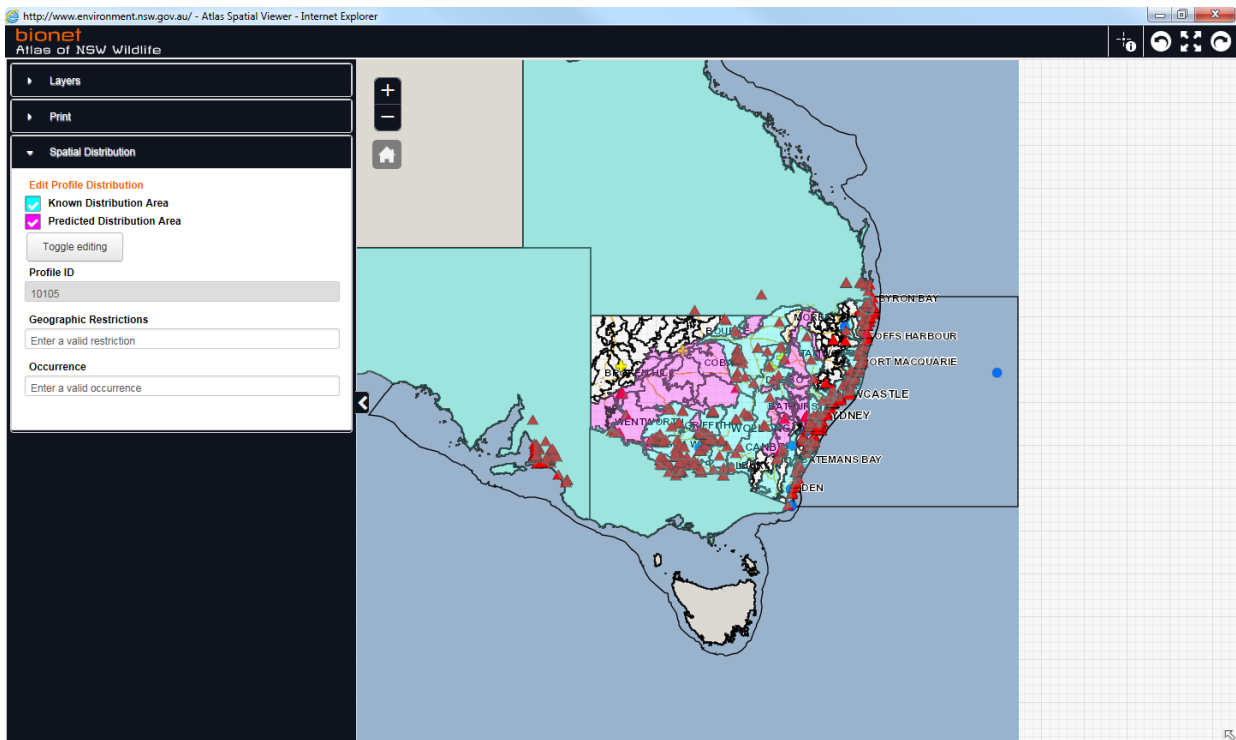


Figure 25.6 Maximised Spatial Viewer window

25.2.1 General functionalities

The map contains a legend on the left, plus two sets of interactive buttons shown highlighted in Figure 25.7.

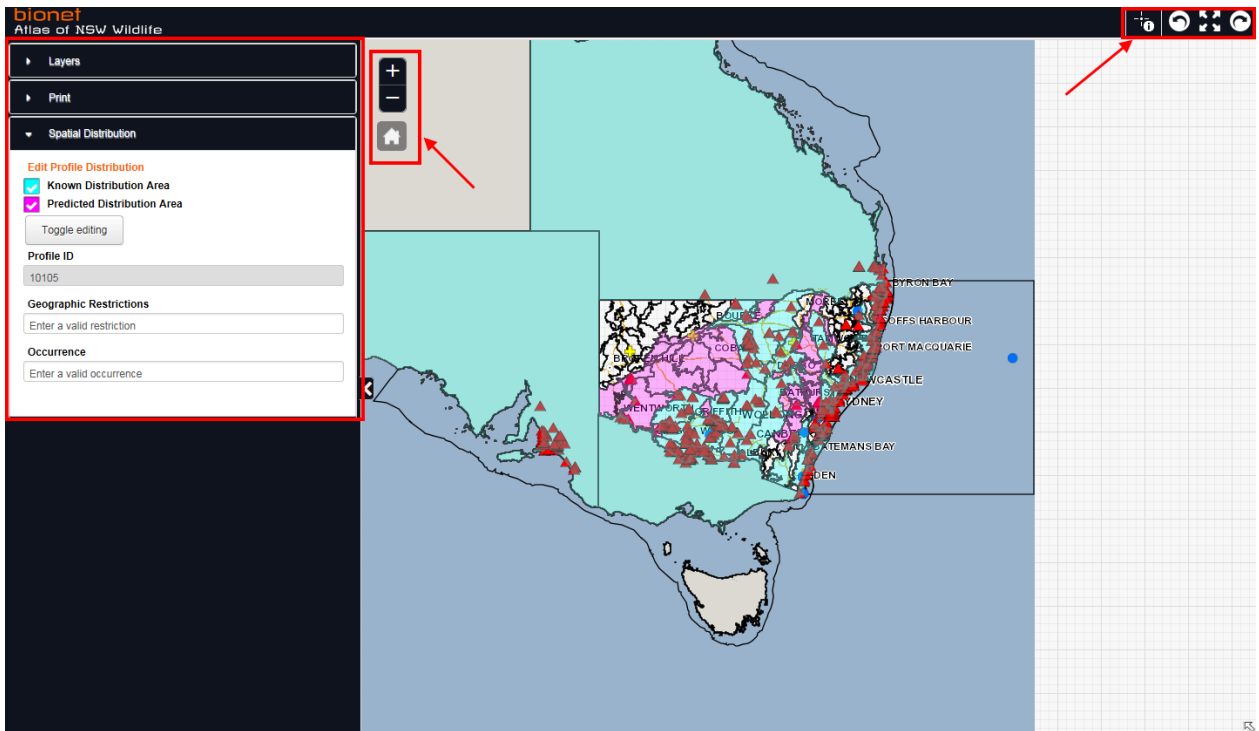


Figure 25.7 Legend and location of two sets of interactive buttons

Map legend

The legend provides a key to all the symbols used on the map. To see all information, click on the arrows to the left of each legend item to expand and hide the values. scroll up and down using the scroll bar located on the right side of the 'Map Legend' screen. To see all the information once items are expanded, use the scroll bar.

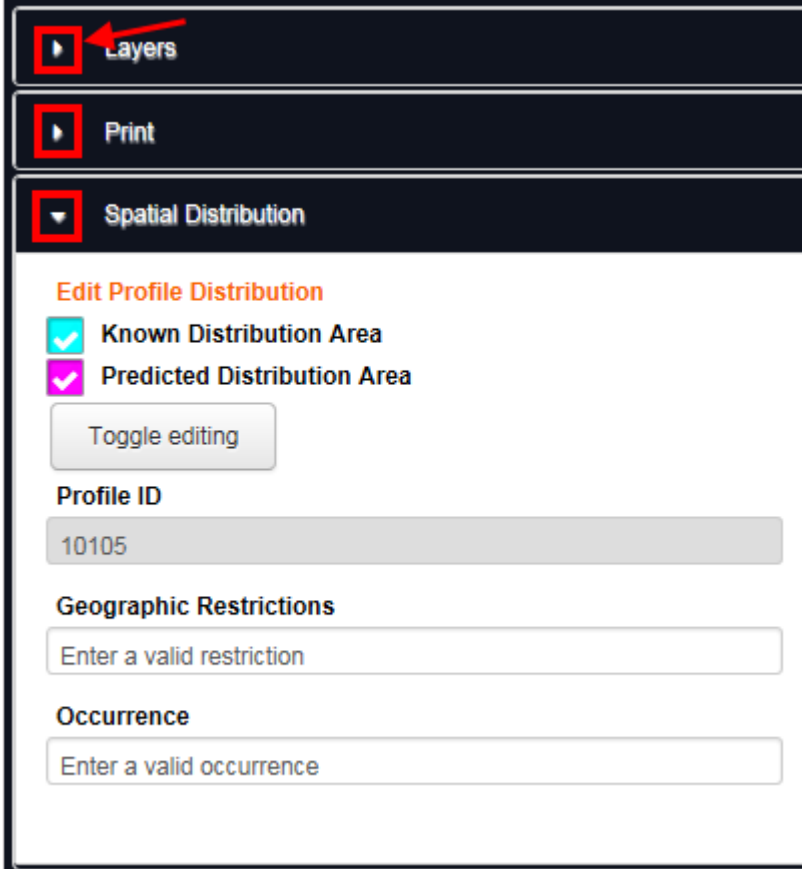


Figure 25.8 Map legend


For available functions in the spatial mapper, see Table 25.1.


Table 25.1 Function buttons in the Mapper


Icon	Description	How to use
	Zoom in	Click on the Zoom in button to automatically zoom in based on where the map is centred.
	Zoom out	Click on the Zoom out button to automatically zoom out based on where the map is centred.


Icon	Description	How to use
------	-------------	------------

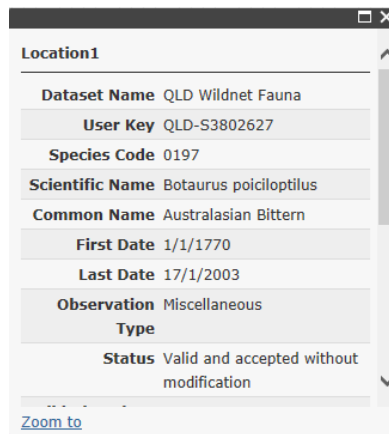
	Pan	To pan across the map, left mouse click on the map and hold down while moving the map.
--	-----	--

	Home	To return the map to the original placement, click on the home button.
---	------	--


	Hide the legend	In some instances, sighting records may be obscured by the Legend pane (such as where there are records within South Australia, or the map has been panned off centre). You can close the legend by clicking on the left arrow button located midway down the right-hand side of the legend pane.
---	-----------------	---



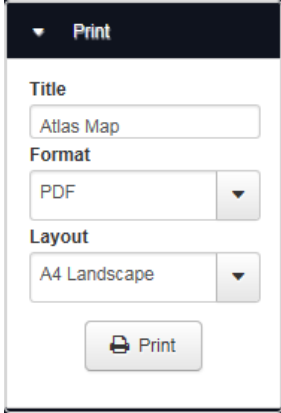
	Display the legend	After the legend has been hidden, to display the legend again, click on the right-hand arrow button.
--	--------------------	--

	Identify	The Identify tool identifies features from selected record points. The Identify tool identifies features from selected record points. Left mouse click, then click on a record on the map. The info pop-up will display
---	----------	--



Click on the *Identify* tool and then click a location on the map to see the details of all the sighting records at that location.

	Previous extent	Click to return to the previous extent.
---	-----------------	---

Icon	Description	How to use
	Full extent	Click to return to the full extent.
	Next extent	Click to go to the next extent.
	Print	Expand the Print heading in the Legend. Edit the Title and select the appropriate Format and Layout options from the dropdown menus Click Print

25.2.2 Edit

Users can associate IBRA Subregions to Profiles, via the Spatial Distribution section of the Legend.

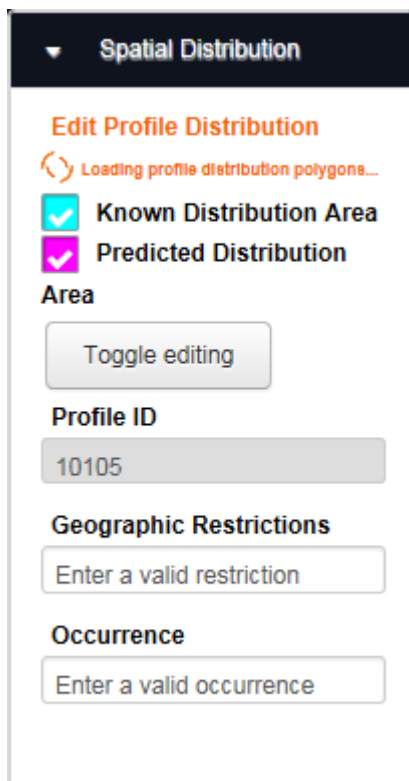


Figure 25.9 Spatial Distribution section of the legend

To edit an IBRA subregion association, do the following:

1. Click on the Toggle editing button. The button will appear depressed (dark grey).

2. Hover your cursor over the map. The cursor will automatically change to a pen.
3. Click on the IBRA subregion you wish to add to, or remove from, the Profile.
4. In the 'Geographic Restrictions' field, type in a value (optional).
5. In the 'Occurrence' field, update the value to either P for Predicted, K for Known or leave blank for null. The IBRA subregion changes colour; pink for Predicted, blue for Known or white for null. To remove an IBRA subregion association, simply delete the value from this field.
6. To stop editing and save your changes, click on the 'Toggle editing' button again. The button will appear raised (light grey) and when you hover over the map the cursor will now be an arrow.

Note: if there are any qualifying records i.e. with Status V or Q and location accuracy less than 1000m, the polygon will automatically be marked K.

7. Once you add an IBRA subregion to the distribution, any records in quarantine will be reprocessed and become valid. This will not be immediately visible in the mapper. However, if you reload the mapper, the records will be marked with the new status.

25.2.3 Verifying the list of IBRA subregion associations for a Profile

1. Close the map and click on 'New search' at the top right of the screen. Click ok to the pop-up.
2. Click on the 'Reports' tab and run the 'IBRA subregion & profiles' report.
3. Enter the Profile ID and click Search.

25.3 How are records removed from Quarantine?

For records of threatened species, this is done by the Accountable Officer, EaTS.

25.3.1 Review of distribution maps and quarantine records for threatened species

All records with a status of 'Invalid, in quarantine' should be reviewed and have their status updated as appropriate, however the Status of any record can be edited at any time.

After reviewing the record (e.g. sighting details, distribution maps, contacting observer), Accountable Officers will be able to update the status in BioNet Atlas*:

1. From the 'Species sightings' menu, select 'Open sighting'.
2. In the 'Sighting' tab folder, click on the 'Status' link.
3. In the Update status pop-up, select the appropriate status from the dropdown list:
 - Accepted as valid from Quarantine
 - Suspect
 - Rejected as certainly incorrect
 - Vagrant or Escaped Animal or Plant Specimen
 - Valid record from population that is no longer extant.
4. Enter the reason for making the edit.

*Note staff will only be able to edit records for which they have been granted access to the dataset in which the record is stored. Most records are stored in the 'OEH Default Sightings' Datasource (see 'Datasource' tab of the sighting). If unable to edit a record, contact the [BioNet team](#).

26. Adding PCTs to profiles

Plant Community Types (PCTs) are the master community-level typology used in NSW's planning and assessment tools and vegetation mapping programs. Learn more about [BioNet Vegetation Classification](#).

26.1 Automated features

A number of automated data population features have been incorporated into the Threatened Biodiversity Profiles module to assist the overall task of PCT assignments. There is suggestion from some users that further refinement is required.

The current features include:

- All associations between PCTs and TECs must now be completed in the Vegetation Classification database. The Threatened Biodiversity Profiles module will automatically populate associations between PCTs and TECs from the Vegetation Classification database but will not allow any direct editing by users of those associations (this is because of previous PCT-TEC data entry mismatches between the two databases).
- Any threatened plant listed in the Vegetation Classification database as one of the characteristic species for a PCT will automatically be populated in the Threatened Biodiversity module. No deletion of these associations will be allowed in the Threatened Biodiversity Profiles module.
- Many additional filters have been added to improve the useability of the application.

Users can concurrently associate a PCT in a single IBRA Region to many Threatened Species profiles in that IBRA Region.

This system cannot concurrently associate a single PCT to many profiles in many IBRA Regions.

1. Click on 'Add PCT to profiles' tab (Figure 26.1).

The screenshot shows the 'Profiles' page with the 'Add PCT to profiles' tab selected. The search form includes the following fields:

- Vegetation Formation: dropdown menu with '--All--' selected.
- Vegetation Class: dropdown menu with '--All--' selected.
- Plant community type ID: text input field.
- Status: dropdown menu with '--All--' selected.
- PCT Common Usage Name: text input field.
- Search: button.

Figure 26.1 The 'Add PCT to profiles' tab

2. Do one or more of the following:
 - Select a Vegetation Formation from the dropdown list in the 'Vegetation Formation' field.
 - Select the Vegetation Class from the dropdown menu in the 'Vegetation Class' field.
 - Type in the Plant Community Type ID in the 'Plant community type ID' field.
 - Type in the PCT Common Usage Name in the 'PCT Common Usage Name' field.
 - Select the 'Status' in the 'Status' field.

- Click on 'Search'. The list of PCTs matching the criteria displays. PCTs for which the Threatened Species Profile associations are incomplete are marked as 'New', highlighted yellow and listed at the top of the list of PCTs (see Figure 26.2).

Search & edit | Add PCT to profiles | Reports

Search for plant community type

Vegetation Formation: Arid shrublands (Acacia sub-formation) [v]
 Vegetation Class: --All-- [v]
 Plant community type ID: [text]
 Status: --All-- [v]

PCT Common Usage Name: [text]

Search

Results 1-34 of 34

PCT ID	PCT Common Usage Name	PCT status	Review
359	Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland / low sparse woodland on metamorphic ranges on the Barrier Range, Broken Hill Complex Bioregion	New	Select
264	Supplejack woodland of the NSW north-western semi-arid plains	New	Select
127	Bastard Mulga tall open shrubland of the semi-arid (hot) and arid climate zones	Complete	Select
197	Black Box - Gidgee - chenopod low open woodland wetland on alluvial clay soils in the Culgoa River region of the Darling Riverine Plains Bioregion and Mulga Lands Bioregion	Complete	Select
60	Black Oak - Western Rosewood - bluebush/saltbush low sparse woodland on gravel downs in the arid climate zone	Complete	Select
140	Broombush shrubland in dunefields of the arid climate zone	Complete	Select
129	Cabbage-tree Wattle shrubland of the inland plains and drainage lines	Complete	Select

Figure 26.2 The 'New' PCTs

- To select a PCT from the list displayed, click on 'Select'. Basic information for the PCT, its status and lineage information display in the PCT selected area (see Figure 26.3).

Search & edit | Add PCT to profiles | Reports

PCT selected

PCT ID: 359
 PCT Name: Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland / low sparse woodland on metamorphic ranges on the Barrier Range, Broken Hill Complex Bioregion

Status: New [v] [Update status]

Description: This community contains an unusual occurrence of Red Mallee and Gum Coolabah growing in a Porcupine Grass dominated landscape on rocky ranges in the arid zone. Hummock grassland to low sparse woodland with the ground cover dominated by the hummock grass Porcupine Grass (*Triodia scariosa* subsp. *scariosa*). Scattered trees include Red Mallee (*Eucalyptus socialis*) with Gum Coolabah (*Eucalyptus intertexta*). Shrubs are very sparse and include *Acacia aneura* sens lat., *Acacia*

Vegetation Type - CMA associations :
 Change Source :
[More information on Vegetation type](#)

Lineage: No lineage found...

Comments:

Action type	Comment
New assignment to PCT	PCTID_359_WE163_Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland/low sparse woodland on ranges, Broken Hill Complex Bioregion (Benson 359). New Benson Type added by James Crook. sNew assignment to CMA. Approved. Approved update of May 2011

[Add to profiles] [Search Again]

Figure 26.3 The information required when adding a PCT to a profile

26.2 Update status

Users can update the PCT status.

- Select the appropriate status from the dropdown menu in the 'Status' field (see Figure 26.4).

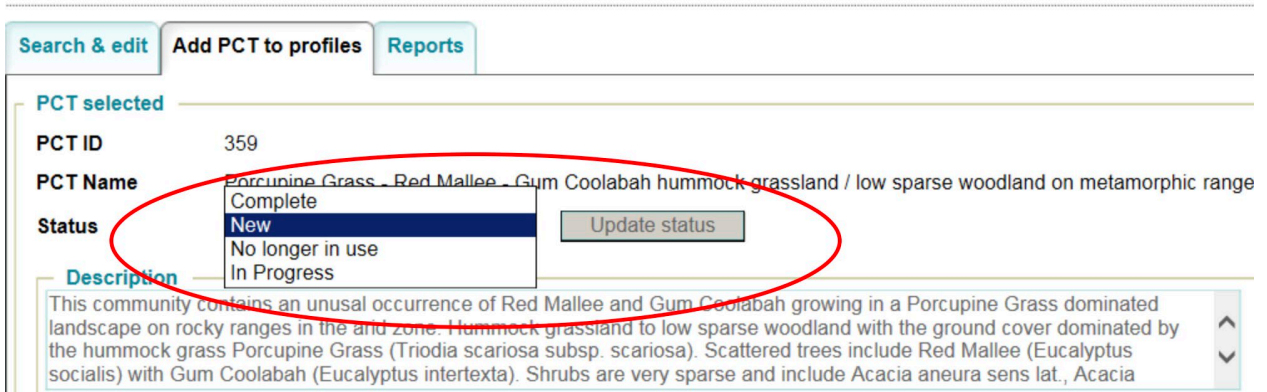


Figure 26.4 The Status dropdown box

2. Click on 'Update status' to update the status.

26.3 Adding a PCT to a profile

Users can concurrently associate a PCT in a single IBRA Region to many Threatened Biodiversity Profiles in that IBRA Region (see Figure 26.5).

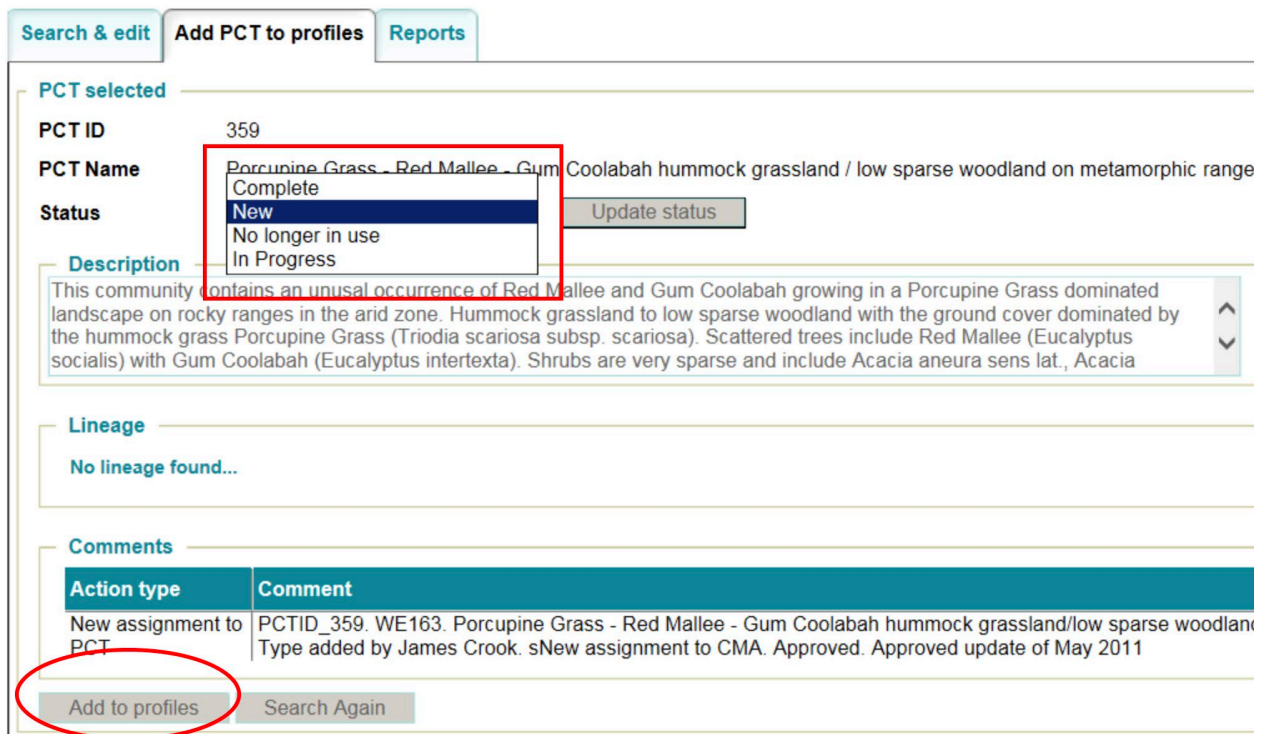


Figure 26.5 The 'Add to profiles' option

1. Click on 'Add to profile'. The 'Add PCT to profiles' screen will appear (see Figure 26.6).

Close

Add PCT to profiles

PCT to add

PCT Name Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland / low sparse woodland on metamorphic ranges on the Barrier Range, Broken Hill Complex Bioregion

Search for profiles

Kingdom	<input type="text" value="--All--"/>	GeneralType	<input type="text" value="--All--"/>
Scientific name	<input type="text"/>	Common name	<input type="text"/>
Profile ID	<input type="text"/>	ProfileStatus	<input type="text" value="--All--"/>

Associated

Figure 26.6 The ‘Add to profiles’ box

2. Do one or more of the following:
 - Select the Kingdom name from the dropdown menu in the ‘Kingdom’ field.
 - Select the type of threatened entity from the dropdown menu in the ‘General Type’ field.
 - Type in fully or partially the species scientific name in the ‘Scientific name’ field.
 - Type in fully or partially the species common name in the ‘Common name’ field.
 - Type in fully or partially the species profile number in the ‘Profile ID’ field.
 - Select the profile status from the dropdown menu in the ‘ProfileStatus’ field.
 - Check the ‘Associated’ checkbox to restrict the search to profiles already associated.
 - For the full list of Threatened Species in the selected IBRA Region, only click on ‘Search’.
3. Click on ‘Search’ to display the list of profiles (e.g. ‘desert mouse’) (see Figure 26.7).

Close

Add PCT to profiles

PCT to add

PCT Name Porcupine Grass - Red Mallee - Gum Coolabah hummock grassland / low sparse woodland on metamorphic ranges on the Barrier Range, Broken Hill Complex Bioregion

Search for profiles

Kingdom	<input type="text" value="--All--"/>	GeneralType	<input type="text" value="--All--"/>
Scientific name	<input type="text"/>	Common name	<input type="text" value="desert mouse"/>
Profile ID	<input type="text"/>	ProfileStatus	<input type="text" value="--All--"/>

Associated

Results **1-1 of 1**

Scientific name	Common name	Profile ID		Add PCT to profiles	Change Source
Pseudomys desertor	Desert Mouse	20119	<input type="checkbox"/> All <input checked="" type="checkbox"/>	<input type="button" value="Add PCT to profiles"/>	<input type="button" value="Change Source"/>

Figure 26.7 The list of profiles available to add the PCT to

4. Click on single species one by one or click on ‘All’.

Note that TECs cannot be selected here. All TEC-PCT associations must be done in the Vegetation Classification database.

All TBPD Accountable Officers must apply for Vegetation Classification edit user rights by e-mailing bionet@environment.nsw.gov.au.

Each request will need to be confirmed by your manager. Please ensure that your email request states that you are a TBPD Accountable Officer and includes a statement of support from your manager for the application.

5. Click on 'PCT to profiles'. Every threatened species selected will display the selected PCT in its own 'Vegetation type' tab.

27. Reports from the Threatened Biodiversity Database

All users who have a login access to BioNet Atlas have access to reports in the reports menu.

Reports are used to assess, monitor, analyse and manage threatened biodiversity data. Users can keep track of performance and progress towards completion. By reviewing threatened biodiversity data, managers establish the progress on profiles assigned to staff.

Note some of these reports are not recommended; either the report type has become outdated since the introduction of BAM, or the report requires further development. Refer to the 'Description/Notes' section for advice.

Alternatively, tailored reporting can also be carried out using the BioNet Web Services. The 'Profile accountability report' is an exception to this. Refer to the [Web Services homepage](#) for details.

27.1 Reports categories

Table 27.1 Report type available via the Threatened Biodiversity module

Report type	Description / Notes
BioBanking	Warning: outdated report – superseded by BAM. This report provides the user with the functionality to create a detailed description for all biobanking fields. This category also allows you to filter a list of Profiles by IBRA Region, Profile ID and/or by Class of Credit. The BioBanking report is in Excel format only.
IBRA & profiles	This report provides information on associations between IBRA Regions and profiles. The list can be arranged by IBRA Region. The IBRA Region and profiles report are available in Excel and Acrobat formats.
IBRA subregion & profiles	This report creates a list of IBRA Subregion and profiles associations that can be generated by IBRA Subregions. The IBRA Subregion and profiles report are available in Excel and Acrobat formats.
Empty data report	This category provides the user with the functionality to create a report of Empty fields (i.e. fields that have yet to be populated). There are options on how to create a List of Empty Fields by Fauna or Flora and/or Branch. The Empty Data report is in Excel format only.
PADACS report	Warning: outdated report – superseded by BAM. This report provides the user with the functionality to create a list of all PADACS fields. This category allows you to report on PADACS fields by IBRA Region as well as by individual Profile.

Report type	Description / Notes
	The PADACS report is in Excel format only.
Photo report	This report provides a list of photo information. This category allows you to filter by Photographer, as well as to narrow down to only Profiles with no photos attached. The Photo report is available in Excel and Acrobats formats.
Profile report	This report provides information pertaining to an individual profile. This report can only be generated for a single profile at a time. The Profile report is in Acrobat format only.
Profile accountability report	Warning: Report only available to users with Threatened Biodiversity edit access or Admin access. This report provides the name of the Accountable Officer assigned to each profile. This report can be generated by Branch or a single report for all Profiles. The Profile accountability report is available in Excel and Acrobats formats.
Reference report	This report provides the user with information on References and links attached to Profiles. This report allows you to filter the list of references by Title and/or Author. The Reference report is available in Excel and Acrobat formats.
Response to management report	This category creates reports with information on Response to Management (management actions, profiles and scores). This report allows you to filter by management action. The Response to management report is available in Excel and Acrobat formats.
Threatened species audit report	Warning: This report does not work and is still under development.
Vegetation associations report	This report provides the user with the functionality to create a list of vegetation associations. There are options on how to create the report which includes associations either by Profile or Vegetation Type. The Vegetation associations report is available in Excel and Acrobat formats.

27.2 Report functionality

Select a report from the Select report dropdown menu (see Figure 27.1)

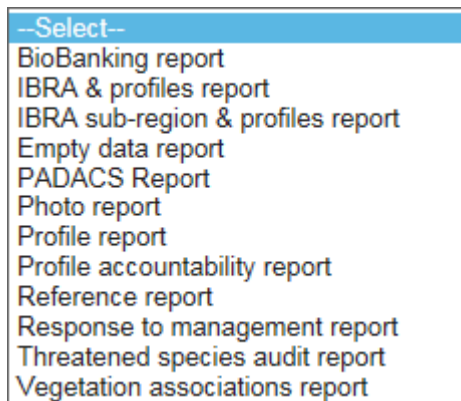


Figure 27.1 Available reports

27.2.1 Selection criteria

The user can narrow a report output by supplying selection criteria that restricts the data displayed from the database (e.g. Biobanking report).

1. If you want a list of all species by a single IBRA Region, select that IBRA Region in the IBRA Region dropdown menu and All on the Class of credit dropdown menu.
2. If you want a list of all IBRA Regions by a single Class of credit, select 'All' in the IBRA Region dropdown menu and a single Class credit in the Class of credit dropdown menu.
3. If you want a list of records by a single Class of credit and by a single IBRA Region, select a IBRA Region and a Class of credit from their respective dropdown menus.

27.2.2 Full list reports

The user can obtain full list of all records at once for each report, except for the 'Empty Data' report, which only allows either a Fauna or a Flora list.

A full report is reached by ignoring all Selection criteria, selecting a report format when available, and clicking 'Go' (e.g. Response to management report)

27.2.3 Single profile report

The user can obtain reports for a single profile by selecting a species in the Profile ID field and clicking on 'Go' (e.g. PADACS Report).

This functionality is available in all reports except for Empty Data, Profile Accountability and Reference reports.

1. Do one of the following (for the full list of species in the selected IBRA Region, only click on 'Search'):
 - Select the Kingdom name from the dropdown menu in the 'Kingdom' field.
 - Select the type of threatened entity from the dropdown menu in the 'General Type' field.
 - Type in fully or partially the species scientific name in the 'Scientific name' field.
 - Type in fully or partially the species common name in the 'Common name' field.
 - Type in fully or partially the species profile number in the 'Profile ID' field.
 - Select the profile status from the dropdown menu in the 'ProfileStatus' field.
2. Click on 'Search' to display the list of profiles.
3. Select a species from the list to display the selected profile ID in the 'Profile ID' field.

27.2.4 Run a report

All reports can be printed.

1. Select a report from the 'Select a report dropdown' menu (e.g. Vegetation associations report) to display the Report selection criteria and Generate report areas.
2. In the report selection criteria, select 'By Profile' or 'By Veg Type'.
3. In 'Generate' report, select either Excel or Acrobat format.
4. Click on 'Go' to display a 'File Download' box.

5. Click on 'Open' or 'Save' to display the report.

27.3 Report field list

27.3.1 Biobanking report fields

Warning: outdated report. Recommend don't use.

27.3.2 IBRA Region and profiles report fields

IBRA Region

Profile ID

Scientific Name

Common Name

27.3.3 IBRA Subregion and profiles report fields

IBRA Subregion

Profile ID

Scientific Name

Common Name

Occurrence

Geographic restriction

27.3.4 Empty data report fields

Fauna

General

Branch

Accountable officer

Profile ID

Scientific Name

Common Name

IBRA Region

Descriptive Text

Description

Distribution

Threats

Habitat & Ecology

Management actions

Photos

Documentation

SRS Habitat

Breeding habitat

Foraging habitat

Shelter/ roosting refuge

Patch size

Fragmentation

Total habitat scale

SRS Loss

Occupy low condition vegetation?

Sustain loss within IBRA Region

Occupy paddock trees?

Sustain loss in paddock

Time of year identifiable

Number of sites in the IBRA Region

Population within IBRA Region

Biobanking

Class of credit

Able to withstand loss

Able to withstand loss (breeding)

Association of species with site attributes

Month of survey

Tg Calculation (Foraging)

How effective are the management action in controlling threats?

Naturally very rare or ecology/ response to management very poorly known?

Most frequent age at which females first produce

Average number offspring produced per adult female per year.

Fauna dispersal distance

Dependent on slow developing attribute

High order predator

Tg (Calculation (Breeding))

How effective are the management actions in controlling threats?

Naturally very rare

Others

Percentage change in low condition vegetation

Response to management

Vegetation type association

IBRA Subregion association

Flora

General

Branch

Accountable officer

Profile ID

Scientific Name

Common Name

Descriptive Text

IBRA Region

Description

Distribution

Threats

Habitat & Ecology

Management actions

Photos

Documentation

SRS Habitat

Essential habitat

SRS Loss

Occupy low condition vegetation?

Sustain loss within IBRA Region

Occupy paddock trees?

Sustain loss in paddock

Time of year identifiable

Population within IBRA Region

Biobanking

Class of credit

Able to withstand loss

If NO, specify applicable negligible loss

Month of survey

Tg Calculation

Effective of management actions

Observed recruitment issues?

Reproductive strategy

Age at first significant flowering (seed production)

Quantity of viable seeds produced annually per mature individual

Seedbank persistence

Senescence age (lifespan)

Propagule dispersal distance

Naturally very rare?

Very poorly known?

Others

Response to management

Vegetation type association

IBRA Subregion association

27.3.5 PADACS report fields

Warning: outdated report. Recommend don't use.

27.3.6 Photo report fields

Profile ID

Scientific Name

Common Name

Photo ID

Description

Photographer

Copyright

27.3.7 Profile report fields

Common Name

Scientific Name

Conservation Status

Description

Habitat & ecology

Distribution

Known or Predicted to occur in the following IBRA Subregions

Threats

Activities to address this action (Management actions)

Information sources (References)

27.3.8 Profile accountability report fields

Branch

Accountable officer

Profile ID

Scientific Name

Common Name

General type

NSW Status

Date of final gazettal

27.3.9 Reference report fields

Profile ID

Scientific Name

Common Name

Title

Author

URL

27.3.10 Response to management report fields

Profile ID

Scientific Name

Common Name

IBRA Region

Management action

Relative Importance % Good

Relative Importance % Low

Calculation Value Good

Calculation Value Low

27.3.11 Vegetation association report fields – by profile

Profile ID

Scientific Name

Common Name

IBRA Region

Veg Type

By Veg

Veg Type ID

Veg Type

Part G Admin functions

Table G.1 Access to Admin functions module by User Role

Func.	Public	Regist.	Sens Spp Data Lic.	Sen. Spp. Data Lic. + Survey edit data rights	Govt.	OEH general	OEH TB Edit	OEH Admin
View	N	N	N	N	N	N	N	Y
Edit	N	N	N	N	N	N	N	Y

28. Bulk imports

This section refers to the process involved by BioNet staff in importing files that have been uploaded to BioNet Atlas, which is an Admin level function. For instructions specifically on uploading files to BioNet Atlas, refer to Section 6.3.

There are three basic steps involved in the import of uploaded files, as shown in Figure 28.1.

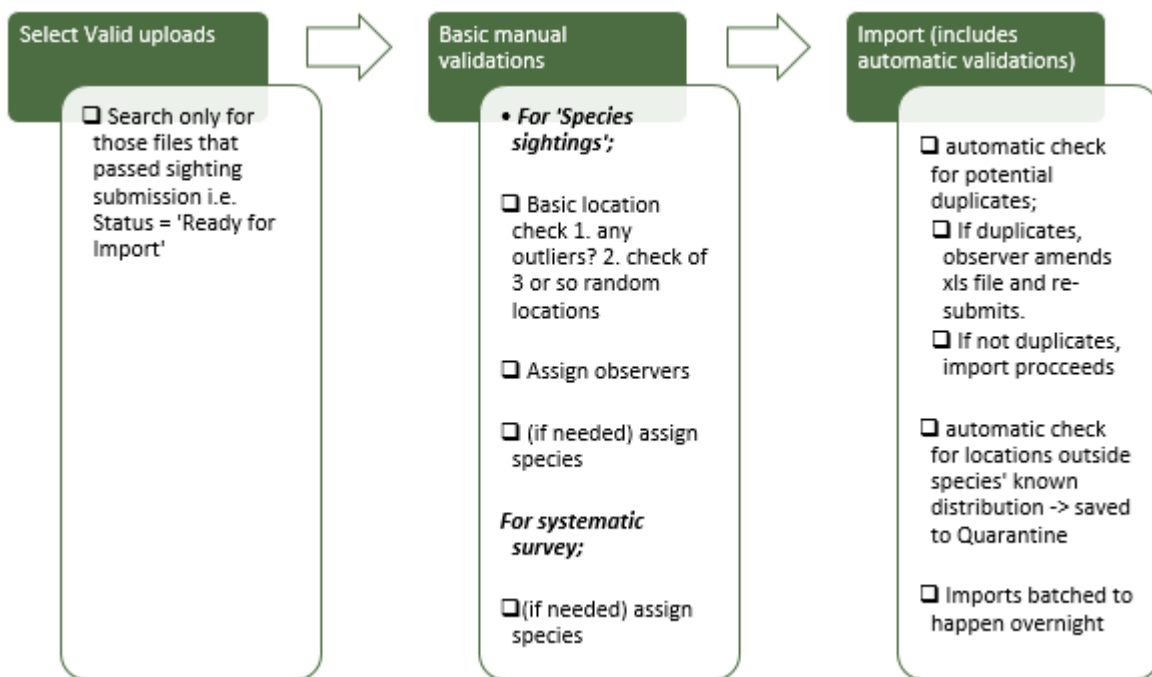


Figure 28.1 Workflow to push through uploaded files for import

28.1 File selection

1. From the 'Import spreadsheet' menu, select 'Import sightings' (see Figure 28.2).



Figure 28.2 The 'Import sightings' option

The 'Step 1 – search for a submission to import' page will display (see Figure X).

2. When selecting files to import, priority is given;
 - a. Firstly, on a request basis such as where Scientific Licensing are requesting confirmation of a successful import to be able to renew a Scientific Licence, or where the observer has emailed asking for an uploaded to be imported as a high priority. In the 'Import sightings' page, search for specific uploads using the fields 'Licensee' (using SL #, surname, first name or full name), 'File name' or 'Submission date'.
 - b. Secondly, remaining files are prioritised according to date of upload. In the 'Import sightings' page, search by 'Submission status' = 'Ready for import' and if necessary, by 'Submission date' also.
3. In the results list, select the 'Review' link, to select the file to review (see Figure 28.3)

Step 1 - search for a submission to import

Submission date Licensee

Submission status Ready for import Dataset name

File name

Import Type Standard Sighting Import Systematic Survey Sighting Import

Results 1-3 of 3

Submission date	Submitted by	Submission status	Dataset	Supplied by	Company	Scientific licence number	File name	Number of records	
18/01/2019 15:37:44	Observer name	Ready for import	OEH Data from Scientific Licences dataset	Registered User	General Public		File name	585	Review
18/01/2019 09:08:06	Observer name	Ready for import	OEH Data from Scientific Licences dataset	Registered User	General Public		File name	15	Review
17/01/2019 15:07:17	Observer name	Ready for import	OEH Data from Scientific Licences dataset	Registered User	General Public		File name	78	Review

Figure 28.3 'Step 1 – search for a submission to import' displaying sample results.

28.2 File review

The first three steps only apply to 'Standard Sightings Imports' uploads:

1. Temporarily change submission status to 'Submitted' and review locations via the BioNet spatial mapper.
2. In the spatial mapper, check for:
 - Outliers – are there any records outside of an obvious cluster (suggesting potential for transcription error in coordinates), or are there any records out to sea?
 - Random location checks – check three or so random locations to ensure coordinates and description match

If either of these checks finds questionable locations, the file is flagged as 'Locations Invalid'. You should email the person who submitted the file to review/correct the records and re-upload the file.

3. Assign observers (search or create new).
4. For 'Standard Sighting Imports' uploads and 'Systematic Survey Sighting Import' uploads, assign species codes (where necessary).

28.3 Import

Once the file review is complete, click the 'Import' button.

The database automatically checks for potential duplicates. That is, an existing record with the same species name, same first and last date and coordinates to within 100 metres. If any potential duplicates are flagged, you will need to check them against the existing records. Where the check confirms them to be true duplicates, they are withheld from import.

and the status is flagged as 'Duplicate'. Where there is uncertainty, the observer is contacted for further clarification.

29. Maintenance functions

29.1 Species names maintenance

29.1.1 Create a new species code

Rules

Ensure the species does not already exist in BioNet Atlas under a synonym. Check by genus only, species only, and common name only.

Only create codes for species listed either on a reputable taxonomic website or in a paper in an appropriate refereed journal. For newly described species, ensure they have been lodged with a relevant herbarium or museum for formal identification.

1. Click on the 'Species names' menu heading, then 'New' on the resulting 'Species Maintenance' page.

Species Maintenance

Species Type	<input type="text" value="Fauna"/>	Layer	<input type="text" value="Mapsheet Number"/>	Currently Accepted	<input type="radio"/> Yes <input type="radio"/> No
Species Details					
Species code	<input type="text"/>	Scientific Name	<input type="text"/>		
Taxon Code	<input type="text"/>	Taxon Name	<input type="text"/>	<input type="button" value="Search"/>	
Latest Taxon Code	<input type="text"/>	Latest Taxon	<input type="text"/>		
External SpeciesID	<input type="text"/>				
Genus Name	<input type="text"/>	Species Name	<input type="text"/>		
Authority	<input type="text"/>	Subspecies Name	<input type="text"/>		
Order	<input type="text"/>	Family Name	<input type="text"/>		
Synonyms	<input type="text"/>				
Taxonomy	<input type="text"/>				
Common Name	<input type="text"/>	Other Common Names	<input type="text"/>		
Bio Status Name	<input type="text" value="Alive in NSW, Native"/>	General Type	<input type="text"/>		
TSC Act	<input type="text"/>	Date Listed	<input type="text"/>		
Commonwealth Status	<input type="text"/>	CITES Status	<input type="text"/>		
NPWS Status	<input type="text"/>	Sensitivity Class	<input type="text"/>		
CAMBA	<input type="checkbox"/>	Fauna Keeper Class	<input type="text"/>		
JAMBA	<input type="checkbox"/>	ROKAMBA	<input type="checkbox"/>		
PNF	<input type="checkbox"/>				
History					
Date created	<input type="text"/>	Created by	<input type="text"/>		
Date Updated	<input type="text"/>	Updated by	<input type="text"/>		
				<input type="button" value="Add"/>	<input type="button" value="Search Again"/>

Figure 29.1 Species maintenance home page

2. Populate the fields (see Table 3.2 fauna maintenance fields and Table 3.3 flora maintenance fields for details).

29.1.2 Remove an existing species code

Rules

Only delete a species code if you have created an exact duplicate in error.

If sightings have subsequently been added to the duplicate code, attempting to delete the code will return an error. In this case, discuss the best approach with the Senior Wildlife Data Officer.

1. To delete a species code, click on the 'Remove' link.

A text box will display prompting you to enter details on why you are deleting the species code from the Database. Enter the reason (see Figure 29.2).

Figure 29.2 Text box with sample reason

2. Click the 'Delete' link to confirm the code removal. Then click 'OK' to the warning message.

29.2 Codes maintenance

Refer to Section 29.2.1 for details on searching on existing Codes, as available to OEH staff without Admin access.

The Codes menu allows you view access to the full list of values (codes) for all available fields (other than species codes). For example; codes for observation types, breeding types and geology. Note that this menu provides the full listing of codes for use across all Atlas modules (i.e. Species Sightings, Fauna survey, Flora survey and Threatened Biodiversity Profiles).

29.2.1 Search on an existing code

1. Click on the 'Codes' menu. A 'Codes Maintenance' search screen will display.

Figure 29.3 The 'Code Maintenance' search page

2. Enter all (or part) of a 'Search class' (e.g. 'observation') to search on all classes that **contain** that value.
3. Click on the 'Search' button. All Classes that contain your search phrase will appear in the result list (see Figure 29.4).

Class	Description
53	Observation Type Select

Figure 29.4 Results for a 'Code maintenance' search

- To display all available values (codes) for a specific Class (e.g. all values for 'Observation', which would include 'observed', 'heard call', 'scat' etc), click on the 'Select' link. The results will display as shown in Figure 29.5. Note that only 10 values are displayed per page.

Results 1-10 of 28 New

1 2 3

Code Name	Description	Code Value	
A	Stranding/beached	99	Review Remove
B	Burnt	99	Review Remove
C	Cat kill	99	Review Remove
D	Dog kill	99	Review Remove
E	Nest/roost	99	Review Remove
F	Tracks, scratchings	99	Review Remove
FB	Burrow	99	Review Remove
G	Crushed Cones	99	Review Remove
H	Hair, feathers or skin	99	Review Remove
I	Subfossil/Fossil Remains	99	Review Remove

Figure 29.5 Results list for a selected Class

- To view all values for each field class, click on the respective page numbers.

29.2.2 Edit codes (create, edit and delete)

Note that before any edits are made, you must:

- Clarify with the OEH staff or external client the reason for the requested edit.
- Decide if the edit is valid (e.g. if you have been requested to create a new observation type, ask yourself if the new code is unique and not essentially a duplicate of an existing code) and any implications this may have.
- Discuss with the Senior Wildlife Data Officer to confirm the edit is appropriate. Note that some classes are protected from edits.

You will very rarely need to edit codes. Very occasionally you may need to create a new code, or perhaps alter the Code value. Keep in mind that editing or deleting existing codes has implications for data input and interpreting previous data downloads, so please use caution when undertaking edits.

Create a new code

- Click on the 'New' button. A new 'Code Maintenance' page appears.

Code Maintenance

Code Details

Class Name	Observation Type
Code Name	<input type="text"/>
Description	<input type="text"/>
Code Value	<input type="text"/>

Figure 29.6 The 'Code Maintenance' page

Table 29.1 lists the descriptions and required formats for each of the fields in the 'Code Maintenance' page.

Table 29.1 Code Maintenance fields

Field	Description	Format
Code Name	An abbreviation of the Description (e.g. for Class Observation; the Code name for Observed is 'O'). NB: 1. The code is unique to the specific Class. 2. Should be meaningful (i.e. if possible, begin with the first letter of the name) as it is what users will enter when inputting a new sighting, and what they will see in reports for extracted datasets.	Free text, accepts up to five characters.
Description	A description of the code (e.g. for Class 'Observation', the description for a sighting that is sighted is 'Observed').	Free text, accepts up to 150 characters.
Code value	An additional field used to record other information about a code. The use of this field will vary according to the class in question e.g. for Taxonomic classes the field Code value has been used to record the common name of the taxonomic group.	Free text, accepts up to 150 characters.

2. To save click on the 'Create' button. The message 'Code created successfully' will display.
3. Click on the 'Search again' button to be returned to the 'Code Maintenance' homepage.

Edit an existing code

1. Click on the 'Review' link for a specific Code. The 'Code Maintenance' page appears with details for the selected Code.

Code Maintenance

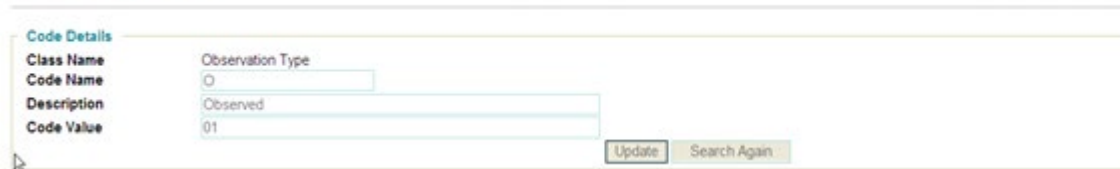


Figure 29.7 The 'Code Maintenance' page

2. Make any edits as necessary and click on the 'Update' button. The message 'Core updated successfully' will display.
3. Click on the 'Search again' button to be returned to the 'Code Maintenance' homepage.

Delete an existing code

Note that you cannot delete a code that is already referenced by an Atlas record. Speak to the Senior Wildlife Data Officer before attempting to delete any Codes.

1. Click on the 'Remove' link for a specific Code. A pop-up will display.

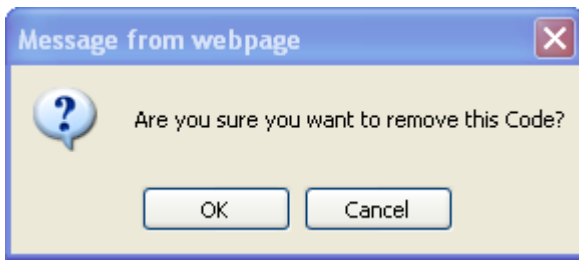


Figure 29.8 Warning message pop-up

2. If you click 'Cancel' the pop-up will close, and no changes will have been made.
3. If you click 'OK' the code will have been successfully deleted (Note that no message will display to this effect).

29.3 User maintenance

All secure logins to BioNet Atlas are created and managed via the User maintenance section.

29.3.1 Creating user accounts

1. On the user Maintenance page, first search on the user to clarify whether they have an existing ASMS account (see Figure 29.9).

User Maintenance

Figure 29.9 User maintenance search page

2. If the users name already appears in the results list, one of three links will display to the right of their name; Click 'Add' to add the user (see below instructions), 'Review' to edit their existing access or 'Associate'.
3. If their name does not appear, click the 'logout' menu and re-login to be taken to the 'My applications' page.
4. Click on the 'ASMS user administrator' link.
5. Click 'ASMS users'.
6. Create a user name (generally first six letters of surname and first initial), add their name, contact details and assign a password.
7. Next, select 'ASMS applications', search on the user and add them to the BioNet Atlas application.
8. Go back to the Admin menu in BioNet Atlas and search on the username and click 'Add'.
9. In the User details box, assign a unique three letter combination in the 'Initials' box, select appropriate values for 'Role' and 'Licence No', tick the 'Is Active?' checkbox and click 'Update'.
10. Click 'Dataset Access' and assign datasets for edit access as appropriate.

29.3.2 Disabling user accounts

1. Search on the user name to determine whether they have an existing account.
2. If an account exists, open the User details page.
3. Un-tick the 'Is active' check box and select 'Update' to save the changes.

29.4 Licence maintenance

Management of all licences is undertaken by the Data Exchange Officer. Figure 29.10 captures a summary of the overall workflow and approval processes required in granting licensed access.

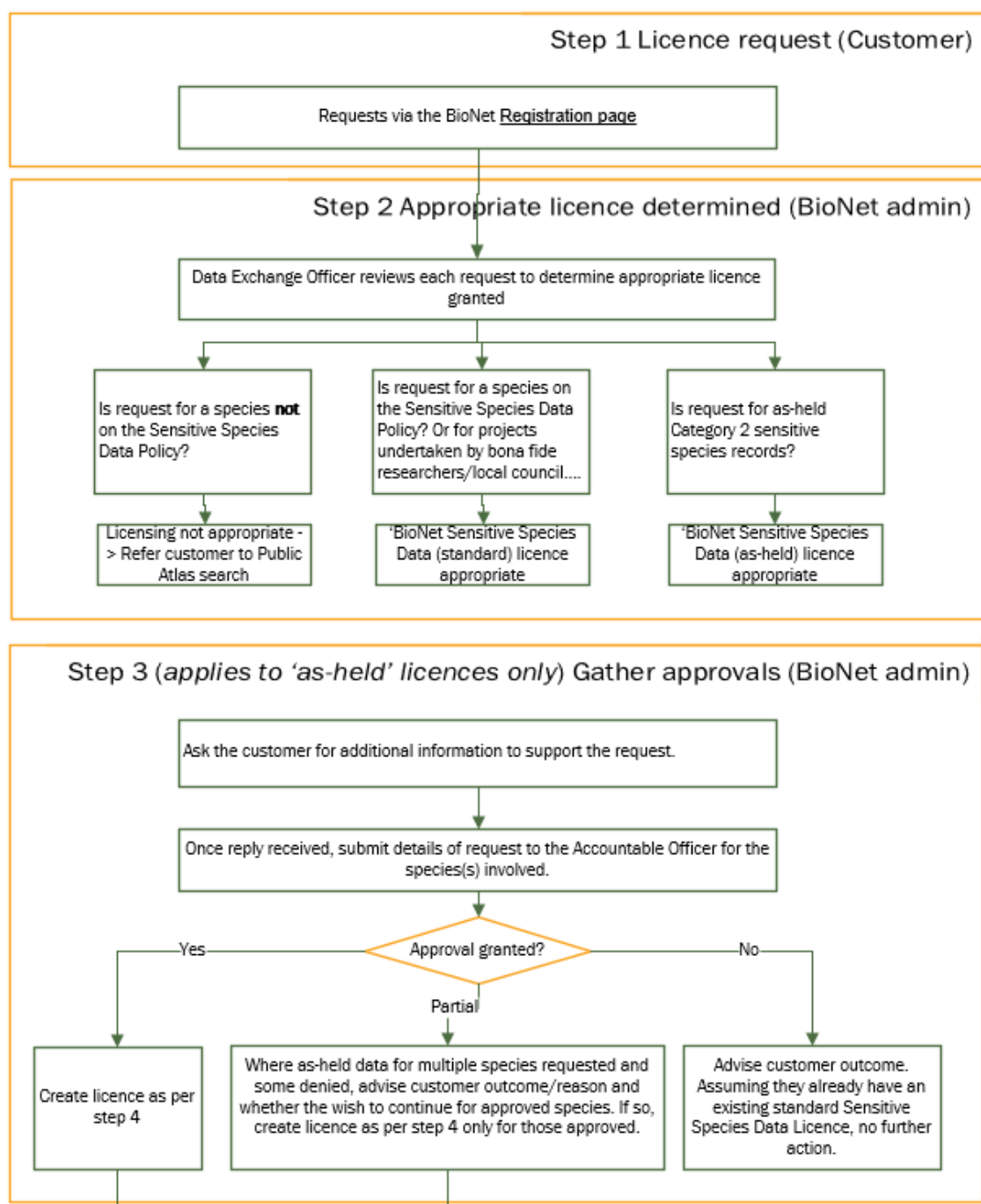


Figure 29.10: New licence approval and creation (Steps 1 to 3)

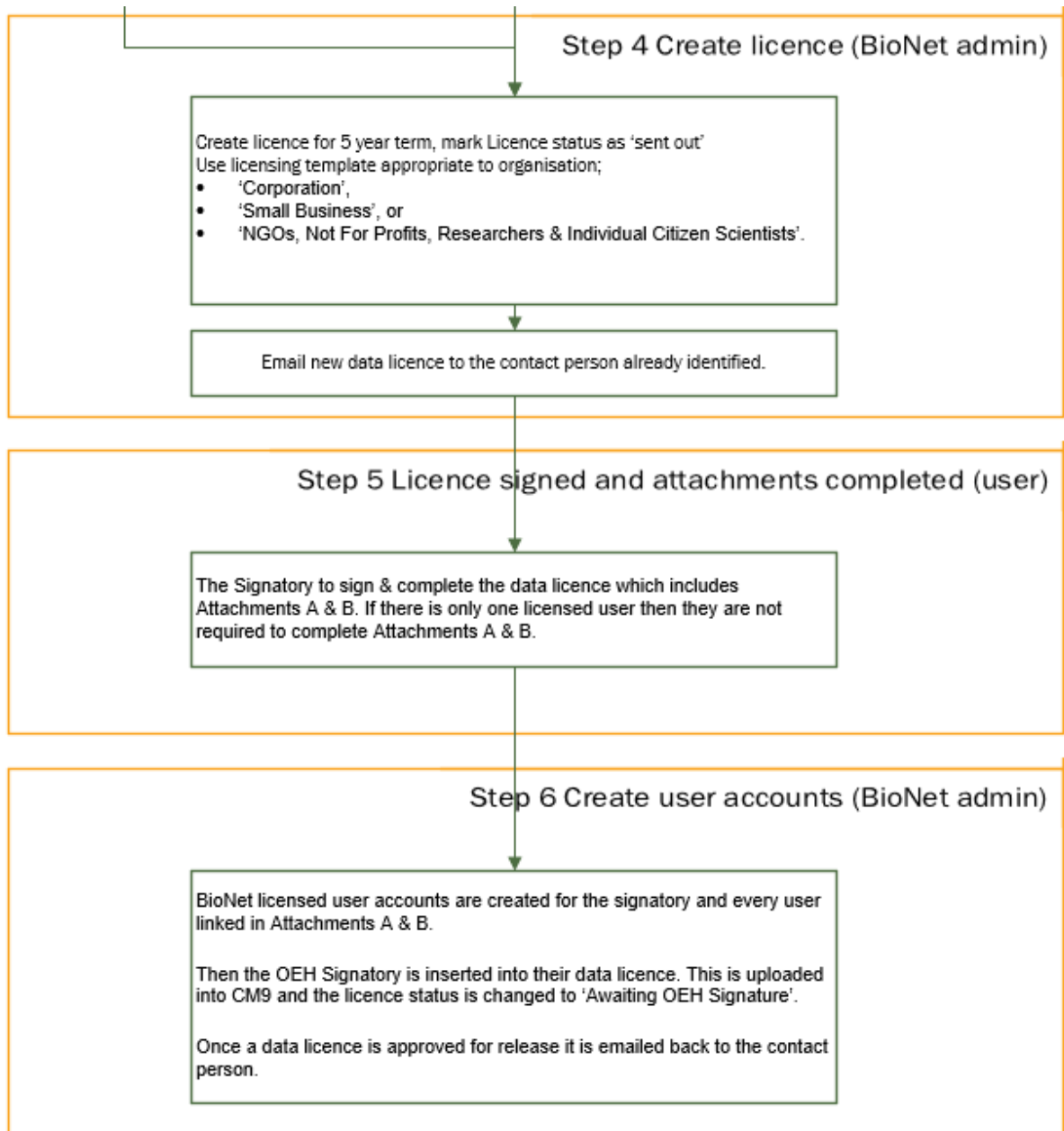


Figure 29.11 New licence approval and creation (Steps 4 to 6)

29.5 Dataset maintenance

This menu is used to create new datasets to which surveys and records are added. Write access to individual datasets is maintained here.

29.6 Group maintenance

Management of group level maintenance is done here. Any edits are to be approved by the BioNet team leader.

29.7 Profile maintenance

Creation or deletion of new threatened biodiversity profiles are done via the Profile maintenance page under the Admin menu. All edits are carried out via the Wildlife Data Officer (Threatened Species).

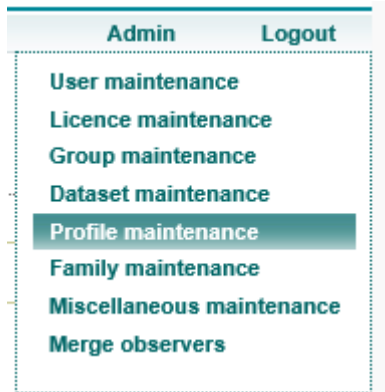


Figure 29.12 Profile maintenance option form the Admin menu

1. After selecting 'Profile Maintenance' from the Admin menu (see Figure 29.13), click on the 'New' button.

Profile Maintenance

The screenshot shows the 'Profile Maintenance' form. It has a 'Profile Details' section with the following fields: Profile ID (text input), Branch (dropdown), Scientific Name (text input with up/down arrows), Common Name (text input with up/down arrows and a 'Search' button), NSW Status (dropdown), Commonwealth Status (dropdown), Accountable Officer (dropdown), and Date of final gazettal (text input). There is an 'Add' button and a 'Search Again' button at the bottom right. On the right side, there is a 'History' section with a list: Date Created, Created By, Date Updated, and Updated By.

Figure 29.13 Profile maintenance page

2. Populate the fields as per Table 29.2.

Table 29.2 Profile maintenance fields

Field	Description	Format
Profile ID	Unique identifier	Numeric; automatically assigned on saving.
Branch	The OEH EaTS branch that has responsibility for this profile	Select from dropdown list.
Scientific Name and Common Name	–	Click 'Search' to locate the species within the Species names table or the list of Endangered Populations, Threatened Ecological Communities and Key Threatening Processes.

Field	Description	Format
NSW Status	The legal status as listed under the Biodiversity Conservation Act	Select from dropdown list.
Commonwealth Status	The legal status as listed under the EPBC Act	Select from dropdown list.
Accountable Officer	The officer within the relevant EaTS branch that will be responsible for populating and maintaining the profile	Select from dropdown list.
Date of final gazettal	The date the entity was listed on the Biodiversity Conservation Act	dd/mm/yyyy

29.8 Family maintenance

29.8.1 Create a new family

The 'Family maintenance' menu allows staff to edit and create new Family names. Most commonly a new family name would be required where a new flora or fauna species code is being created, for which no other species have been created for the associated Family.

Rules

Please note that before you create a new family, always first search to double check that it does not already exist, so as to avoid creating duplicate entries for the same Family.

Select 'Family maintenance' from the 'Admin' menu (see Figure 29.14) to return the Family Maintenance page (see Figure 29.15).

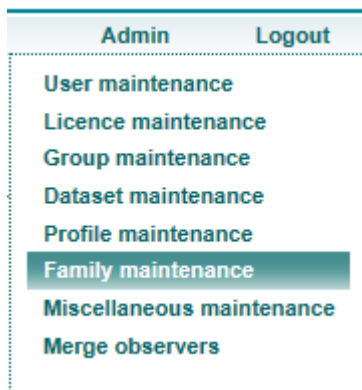


Figure 29.14 Family maintenance from the Admin menu

Family Maintenance

Figure 29.15 The ‘Family Maintenance’ page

29.8.2 Search for an existing Family

1. In the ‘Search Family’ field, type in part (or all) of the family name you wish to search on.
2. Ensure the correct ‘Family type’ is selected (Fauna is selected by default).
3. Click on the ‘Search’ button. All results that match your search criteria will display in the ‘Results’ list. The following example shows the search results for the Family *Lamnidae*.

Class	Order	Family Name	Common name	SortOrder	
Chondrichthyes	Lamniformes	Lamnidae		1	Review Remove

Figure 29.16 Family maintenance page

4. To review details for the Family, click on the ‘Review’ link. The ‘Family details’ page will display.

Figure 29.17 Family maintenance search page

5. To return to the main ‘Family maintenance’ search page, click the ‘Search again’ button.

29.8.3 Create a new Family

1. Click on the ‘New’ button. The ‘Family Maintenance’ page will display.

Family Maintenance

Figure 29.18 Family maintenance search page

2. Enter family details into each of the fields, as outlined in Table 29.3.

Table 29.3 Description of fields contained in the Family Details

Field	Description	Format
Family Name	The Family name.	Free text, up to 30 characters.
Common Name	The common name of the Family.	Free text, up to 80 characters.
Family Type	Whether <i>Fauna</i> or <i>Flora</i> .	Select from the dropdown list.
Class	The Class name.	Select from the dropdown list.
Order	The Order name.	Select from the dropdown list.

Note that it's best to search on the 'Class' and 'Order' fields first to make sure they exist in the Atlas. If they don't exist, you will need to create them via the 'Codes' menu (refer to Section 4) before you are able to save the new Family details.

3. Once all details have been entered, click on the 'Add' button to save. Once saved, the message 'Family created successfully!' displays.

29.8.4 Edit an existing Family

Rules

Please only **update** details for existing Families if you are 100% sure.

1. Search for an existing Family (see Section 29.8.3).
2. In the Results list, click on the 'Review' link.
3. The 'Family Details' page will display.
4. Edit the details as necessary.
5. Click on the 'Update' button to save the changes.
6. The message 'Family updated successfully!' displays.

29.8.5 Delete an existing Family

Rules

Only **delete** details for existing Families if you are 100% sure.

1. Search for an existing Family (see Section 29.8.3).
2. In the Results list, click on the 'Remove' link. A pop-up message will display.

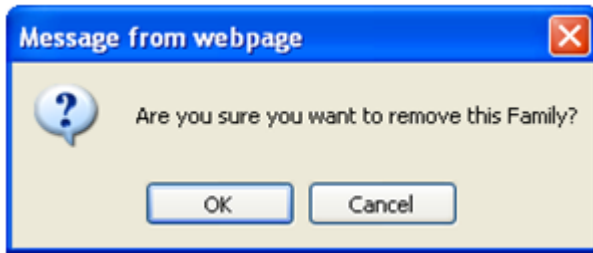


Figure 29.19 Warning message

Note that if you click the 'OK' button, an error message will display if the Family has already been referenced.

29.9 Miscellaneous maintenance

Rules

This section is undertaken by all BioNet staff with Maintenance access.

Additional maintenance tasks are carried out via the Miscellaneous tasks section. These tasks are restricted to the Senior Wildlife Data Officer, BioNet. Currently, this is where PCT updates with the BioNet Vegetation Classification database are carried out.

Miscellaneous Tasks Maintenance

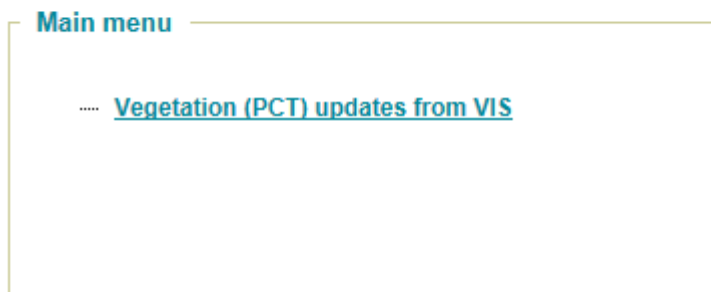


Figure 29.20 'Miscellaneous Tasks Maintenance' page

29.10 Merge observers

Rules

This section is managed by the Senior Wildlife Data Officer.

Where there are duplicate entries of an observer, the merge Observers section allows observer entries to be combined, so that a single Observer entry remains stored in the Observer table. Use of this section is overseen by the Senior Wildlife Data Officer, BioNet.

Merge Observers

Merge - Search for From Observers

Search
Clear

Merge - Search for To Observers

Search
Clear

Add to merge list

Observers to be merged
Observers listed below will be merged by an end of day process.

No data found.

Figure 29.21 'Merge observers' page

Appendices

Appendix 1 Fields available at Step 3: Data review of the DAM

Name	Description
Accuracy	How accurately the coordinates represent the census location (metres).
Allocasuarinas	Percentage of Allocasuarinas on site at the time of the site assessment.
Altitude	The height of the location from sea level (metres).
Analysis comment	Text field for comments about the particular census relevant to your analysis set.
Aspect	Aspect of the area in integers (0-90); North = 0 or 360. Measured in a clockwise direction (e.g. East = 90) from 0 (or 360) degrees.
Bait Cage Type	The type of cage used to house the bait that is used to attract animals in front of the camera. This field will only be populated if the census type is Camera trapping. As it not a required field it may not always be populated.
Bait Type	The type of bait used in the census. This field is available only for the trapping census types that use bait (i.e. Camera trapping, Elliott trapping, Cage trapping and Hair tube trapping).
Banksias	Percentage of Banksias on site at the time of the site assessment.
Camera Make & Model	The make and model of the camera used for a camera trapping census.
Camera Type	The type of camera used in camera trapping (White flash, or infrared).
Census Date Created	The date that the census was created in the Atlas database.
Census description	The description of the census.
Census Last Updated	The date the details in the census were last updated in the Atlas database.
Census notes	Any additional notes that were added regarding the census. This may include information such as transect length, trap type.
Census Type	The type of census (e.g. Hair tube).
Cloud Cover	The amount of cloud cover at the time the census was conducted. Data is listed in 8 th s of sky covered in cloud.
Community type	Vegetation community type present on the site of the census.
Confidence	Confidence level of the field recorder in their assessment of the vegetation formation present on site.
Date first	The start date of the census.
Date last	The end date of the census.
Delay Settings	The delay settings applied to the camera used in the Camera trapping census type (i.e. the time interval between trigger events).
Delay Settings Units	The unit of time for the value for the delay settings.
Detector No	The equipment number of the physical item used in the census (e.g. Number of the Anabat unit used in a Bat ultrasound census).
Device Type & Model	The device type and model of the equipment used in either Bat ultrasound or Acoustic recording censuses.
Dom. Shrub Growth	Broad-scale description of the dominant shrub growth on site at the time of the site assessment.

Name	Description
Drainage	Drainage at site (e.g. well drained, poor, etc).
Dry Bulb Temp	The temperature of a dry thermometer at the site (in degrees Celsius). Value may be used in conjunction with Wet bulb temp to calculate humidity (for amphibian and reptile censuses only).
Easting	The reference in metres, measured east of an arbitrary origin (also referred to as the x-coordinate). A six-digit number, with up to four decimal places.
Effort	An integer representing the effort expended in conducting the survey (see Effort units for the unit of measurement).
Effort Units	In conjunction with the effort value, the effort units gives an indication of the census effort. The unit may be Trap Nights, Hours, Minutes or People hours.
End Site No	For transect spotlighting censuses only. The Site number of the transect's end point.
Epiphytes	Percentage of Epiphytes on site at the time of the site assessment.
Flowers canopy	Percentage of canopy trees on site that bear flowers at the time of the site assessment.
Flowers sub-canopy	Percentage of sub-canopy trees on site that bear flowers at the time of the site assessment.
Focal Distance	The distance of the bait from the camera. For camera trapping censuses only. See Focal distance units for the unit of measurement.
Focal Distance Units	The measurement unit that describes the value given in the Focal distance field. For camera trapping censuses only.
Fruit canopy	Percentage of canopy trees on site that bear fruit at the time of the site assessment.
Fruit sub-canopy	Percentage of sub-canopy trees on site that bear fruit at the time of the site assessment.
Geology	Geology the field recorder observed on site (e.g. sandstone, quartzite, etc).
Geology Mapped Type	The mapped geology.
GPS Used	True/False indication whether a GPS was used to obtain the coordinates.
Gravels(%)	Percentage of gravels present on site.
Great soil group	Classification scheme for soils based on total profile features (e.g. yellow podzolic soil); Stace et al, 1968.
Ground Litter Cover	Percentage of litter cover on site at the time of the site assessment.
Ground Log Cover	Percentage of log cover on site at the time of the site assessment.
Ground Outcropping Rock	Percentage of outcropping rock on site at the time of the site assessment.
Ground Rock Cover	Percentage of loose rocks on site at the time of the site assessment.
Ground Soil Cover	Percentage of bare on site at the time of the site assessment.
Ground Vegetation Cover	Percentage of vegetation cover on site at the time of the site assessment.
Group number	Classification group number.
Humus Depth	Depth of humus layer present (or absent) on site at the time of the site assessment.

Name	Description
Identification Method	Method of identification used to assess calls recorded in Acoustic recording or Bat ultrasound censuses.
Land tenure	Dominant form of land tenure that describes the site.
Large Stags	Number of large stags present on site (as assessed by measurements of a count in a 20m x 20m plot).
Large Tree Hollows	Percentage of large tree hollows present on site.
Latitude	The position south of the equator, measure in decimal degrees.
Litter Depth	Depth of the litter layer present (or absent) on site at the time of the site assessment.
Location description	Detailed description of the geographic location (e.g. street, place name, etc).
Location Key	A unique code assigned to the location in the back-end of the Atlas database.
Location Notes	Any additional notes regarding the location that do not fit within any of the other existing (location related) fields.
Longitude	Longitude of the site in decimal degrees.
Lure Height	Height of the lure from the ground (used for camera trapping censuses only).
Lure Height Units	Units of the measurement provided in the Lure height field. Used in camera trapping censuses only.
Maximum DBH (cm)	The maximum Diameter at Breast Height measurement for a tree trunk on site.
Method notes	Notes regarding the method used.
Mistletoe	Percentage of trees on site with mistletoe at the time of the site assessment.
Moon	Phase of the moon at the time the census was conducted.
Morphology	
No of People	Number of people involved in conducting the census.
No of Traps	Number of traps used while conducting the census.
Northing	The reference in metres, measured north of an arbitrary origin (also referred to as the y-coordinate).
Observers	The observers attributed to the census/site.
On Foot	Whether the transect was conducted on foot.
Principals	The nominated principal for the survey that the census is a part of.
Rain	Rain at the time the census was conducted.
Rain fall	Volume of rainfall recorded at the time the census was conducted.
Recorder Lap No	The equipment number of the recorder or laptop used in the census.
Recording Duration	The length of each recording event captured by the camera used in the camera trapping census. The units are supplied in the Recording duration units field.
Recording Duration Units	The units that describe the value given in the recording duration field.

Name	Description
Recording Frequency	The numerical value that describes the number of times that the recording unit switched on to capture data. For Acoustic recording and Bat ultrasound censuses only.
Recording Frequency Units	The frequency unit that describes the value captured in the Recording frequency field.
Recording Times Of Day	The time of day that the recording equipment turned on e.g. dawn and dusk, 24 hours... For Acoustic recording and Bat ultrasound censuses only.
Recording Type	Describes whether the camera captured video, photo, or both. For camera trapping censuses only.
Relative Humidity	The value of the relative humidity. Diurnal herpetofauna, Nocturnal herpetofauna and Nocturnal streamside censuses only.
Relative Humidity Units	The units of the relative humidity value captured in the Relative humidity field. Diurnal herpetofauna, Nocturnal herpetofauna and Nocturnal streamside censuses only.
Sampling Rate	Applies only for Acoustic recording and Bat ultrasound census types.
Sampling Rate Units	Applies only for Acoustic recording and Bat ultrasound census types.
Sense Level	The gain level for the recording equipment used throughout the census (i.e. the sensitivity of the equipment).
Set-up Orientation	The orientation (horizontal or vertical) of the camera used in a camera trapping census.
Shots per Trigger	The number of shots per trigger event for a camera trapping census.
Shots per Trigger Units	The units of the value given in the Shots per trigger field.
Site no	The site number of the site the census was conducted at. For transect spotlighting censuses the Site no. field relates to the Start point of the transect. To see the end point, please enable the End site column.
Site Recorded	Date the site assessment took place.
Site Team No	Internal reference number of the team that conducted the site assessment.
Slope	Measured in degrees, from the horizontal (0-90).
Small Tree Hollows	Percentage of small tree hollows present on site.
Soil colour	Soil colour at site, based on Munsell code (e.g. Brown).
Soil depth type	Soil depth at the site (e.g. skeletal, deep, shallow, etc)).
Species count	The number of times the species is recorded within the censuses that have been selected in the analysis set. This number does not necessarily reflect the true number of individuals of the species recorded, as one record of the species may have a count recorded against it.
Spectrum	Will not be populated.
Spectrum Units	Whether the recording equipment was set to sample full spectrum or zero crossing.
Stream Order	Assigned stream order.
Stream Width	Width of the stream (in metres).
Survey description	The description given to the survey.
Survey name	The name of the survey that the census is recorded in.
Tape No	Number of the tape used.

Name	Description
Team No	Internal reference number of the team that conducted the census.
Video Duration	The temporal length of video used by the camera used in the camera trapping census. The units are supplied in the Video duration units field.
Video Duration Units	The units that describe the value given in the Video duration field.
View history	Displays the history of the census in other analysis sets (i.e. whether it has been excluded and the reason for the exclusion).
Water Colour	Water colour as selected from a predefined list of options.
Water Movement	Water movement as selected from a predefined list of options.
Waterbody	Type of waterbody as nominated from a predefined list of options.
Wet Bulb Temp	The temperature of a wet thermometer at the site (in degrees Celsius). Value may be used in conjunction with Dry bulb temp to calculate humidity. For amphibian and reptile censuses only.
Wind Direction	Direction of the wind.
Wind Speed	Description of the wind as described from a defined list.
Zone	Zone 56 is 150 o – 156 o longitude, which encompasses much of eastern NSW. Zone 55 is 144 o – 150 o longitude. Zone 54 is 138 o – 144 o longitude, encompassing most of Western NSW. Zone 57 covers Lord Howe Island.

Appendix 2 Fields available at Step 5: Taxonomic review of the DAM

Name	Definition
Assign Common name	Common name of the species that the record has been assigned to.
Assign Scientific name	Scientific name of the species that the record has been assigned to.
Assign species	Changes current assigned species name.
Assigned Species code	Species code of the species that the record has been assigned to.
Author	Taxonomic author.
Bio Status	Status in NSW. One of: Alive in NSW, Native; Extinct in NSW, Native; Introduced; Not Known from NSW; Hybrid.
CAMBA	Field=1 if species is listed on the China-Australia Migratory Bird Agreement.
Common name	Common name of the species (e.g. Sydney blue gum).
Commonwealth Status	Status of species on the Commonwealth EPBC Act.
Cultivar name	Cultivated variety name e.g. 'Elegans'.
Currently Accepted	Whether or not the name is currently accepted by RBG Sydney.
Date Listed	Date on which the species was listed on the BC Act.
Family	Name at family taxonomic level (e.g. Vitaceae).
General Type	Group to which species belongs e.g. Shrub, Tree, Marsupials, Rodents etc..
Genus name	Name at genus taxonomic level (e.g. Eucalyptus).
Hybrid Rank	For a hybrid, the taxonomic rank at which hybridisation has occurred e.g. Species, subspecies, variety etc..
Infraspecies Name	Infraspecific epithet for subspecies, varieties etc..
Infraspecies Rank	Taxonomic rank of the infraspecies e.g. subspecies, variety, etc..
Is Cultivar?	Whether or not the species is a cultivar.
Is Hybrid?	Binary field indicating if flora species is a hybrid of two separate taxa.
JAMBA	Field=1 if species is listed on the Japan-Australia Migratory Bird Agreement.
NPWS Status	Status on the NSW NP&WS Act.
Other common names	Other common names associated with the species.
PATN Label	Unique PATN code for the species.
Profile ID	Profile ID if the species is listed in the Threatened Species database.
ROKAMBA	Field=1 if species is listed on the Republic of Korea-Australia Migratory Bird Agreement.

Name	Definition
Scientific name	Full scientific name of the taxon including genus species epithet infraspecies rank, name and cultivar name if relevant.
Sensitivity Class	Status of the species on the Sensitive Species Information Policy.
Species code	The species' CAPS code.
Species count	Number of recorded.
Species epithet	Species epithet.
Taxonomic Class	Taxonomic Class of the species.
Taxonomic comment	Comments regarding taxonomy of the species.
Taxonomic Order	Taxonomic Order of the species.
Taxonomic Reference	Source of taxonomic reference.
BC Act Status	Status on the NSW <i>Biodiversity Conservation Act 2016</i> .
View history	Provides information about inclusion of species in other analysis sets created using the DAM.

Appendix 3 Census types and tabs available via the Census maintenance page

Census type	Details tab	Site tab	Start site tab	End site tab	Observer tab	Target species tab	Records tab (with associated sub-tabs)	Total tabs
Acoustic recording	Y	Y	N	N	N	N	Sighting	3
All technique types	Y	Y	N	N	Y	N	Sighting	4
Bat ultrasound	Y	Y	N	N	N	N	Observer, Sighting	3
Cage trapping	Y	Y	N	N	N	N	Observer, Sighting	3
Camera trapping	Y	Y	N	N	N	N	Observer, Sighting	3
Diurnal bird	Y	Y	N	N	Y	N	Sighting	4
Diurnal	Y	Y	N	N	N	N	Observer, Sighting	3
Elliott trapping	Y	Y	N	N	N	N	Observer, Sighting	3
Funnel trapping	Y	Y	N	N	N	N	Observer, Sighting	3
Hair tube	Y	Y	N	N	Y	N	Sighting	4
Harp trapping off-site	Y	N	N	N	N	N	Observer, Location, Sighting	2
Harp trapping on site	Y	Y	N	N	Y	N	Sighting	4
Nocturnal herpetofauna	Y	Y	N	N	N	N	Observer, Sighting	3
Nocturnal playbacks	Y	Y	N	N	N	Y	Sighting	5
Nocturnal streamside	Y	Y	N	N	N	N	Observer, Sighting	3
Opportunistic records at standard sites	Y	Y	N	N	Y	N	Sighting	4
Opportunistic records off-site	Y	N	N	N	N	N	Observer, Location, Sighting	2
Pitfall trapping	Y	Y	N	N	Y	N	Sighting	4

Census type	Details tab	Site tab	Start site tab	End site tab	Observer tab	Target species tab	Records tab (with associated sub-tabs)	Total tabs
Predator scats	Y	N	N	N	N	N	Observer, Location, Sighting	2
Site spotlighting	Y	Y	N	N	N	N	Observer, Sighting	3
Threatened plants	Y	Y	N	N	Y	N	Sighting	4
Transect spotlighting	Y	N	Y	Y	N	Y	Observer, Location, Sighting	4
Waterbird survey	Y	Y	N	N	Y	N	Sighting	4
Wet Pitfall trapping	Y	Y	N	N	Y	N	Sighting	4

Appendix 4 Request to edit locked fields in the Assessment tab of the Threatened Biodiversity module

A number of fields in the ‘Assessment’ tab have been locked from editing by all Users. These fields either have a significant impact on the credit calculations generated in the BAM Calculator (e.g. fields used to derive the Level of Biodiversity Concern), on the operation of the Biodiversity Offsets Scheme (e.g. change in biodiversity credit class) and/or the changes require approval from OEH Executive (e.g. whether the entity is at risk of a ‘serious and irreversible impact’).

Consequently, changes to these data require further consideration. Where a change to one of these fields is proposed, the information in the applicable template below needs to be completed by the Accountable Officer and emailed to bionet@environment.nsw.gov.au.

1. Template to [Request to amend a field for an existing profile](#)
2. Template to [Request to add information to a new profile](#).

Note: justification should include data, published literature and/or experts consulted and their opinion. Where appropriate this information should be presented as attachments to the template.

1. Request to amend a field for an existing profile
Scientific name:
Profile ID:
Accountable officer (ROG EaTS):

Proposed changes will be considered by OEH Science Division and Conservation and Regional Delivery Branch, possibly with consultation with external species experts.

We will contact you with a response to your request.

Note: When editing an existing profile, you only need to add data to the field being recommended for edit. Leave the remaining fields blank.

Field	Sub-field	Existing value (select from list)	Proposed value (select from list)	Justification for proposed change
Biodiversity Credit Class	–	Existing Credit Type	Proposed Credit Type	Add justification
Sensitivity to Loss	Geographic Distribution	Existing Distribution	Proposed Distribution	Add justification
	Total Population Size	Existing Population Size	Proposed Population Size	Add justification

Field	Sub-field	Existing value (select from list)	Proposed value (select from list)	Justification for proposed change
	Rate of decline	Existing Rate of Decline	Proposed Rate of Decline	Add justification
Sensitivity to Potential Gain	Ecology or response to management is poorly known	Existing Knowledge of Response	Proposed Knowledge of Response	Add justification
	Effectiveness of management actions in controlling threats	Existing Ability to Control Threats	Proposed Ability to Control Threats	Include the main threats in the justification
	Species dependent on non-responding attributes	Existing Dependence	Proposed Dependence	Include a description of the non-responding attribute(s) in the justification
	Age at first significant flowering	Existing Flowering Age	Proposed Flowering Age	Add justification
	Quantity class of viable seeds produced	Existing Number of Seeds	Proposed Number of Seeds	Add justification
	Reproductive strategy	Existing Reproductive Strategy	Proposed Reproductive Strategy	Add justification
	Ability to colonise improved habitat	Existing Dispersal	Proposed Dispersal	Add justification
	Seedbank persistence	Existing Persistence	Proposed Persistence	Add justification
	Lifespan	Existing Lifespan	Proposed Lifespan	Add justification
SAII (Serious and	Threshold Type	Existing Threshold Type	Proposed Threshold Type	Add justification

Field	Sub-field	Existing value (select from list)	Proposed value (select from list)	Justification for proposed change
Irreversible Impacts)	Threshold Size	Enter Existing Threshold Size (number, area etc)	Enter Proposed Threshold Size (number, area etc)	Add justification

2. Request to add information to a new profile

Scientific name:

Profile ID:

Accountable officer (ROG EaTS):

Field	Sub-field	Proposed value (select from list)	Justification for proposed change
Biodiversity Credit Class		Proposed Credit Type	Add justification
Sensitivity to Loss	Geographic Distribution	Proposed Distribution	Add justification
	Total Population Size	Proposed Population Size	Add justification
	Rate of decline	Proposed Rate of Decline	Add justification
Sensitivity to Potential Gain	Ecology or response to management is poorly known	Proposed Knowledge of Response	Add justification
	Effectiveness of management actions in controlling threats	Proposed Ability to Control Threats	Include the main threats in the justification
	Species dependent on non-responding attributes	Proposed Dependence	Include a description of the non-responding attribute(s) in the justification

Field	Sub-field	Proposed value (select from list)	Justification for proposed change
	Age at first significant flowering	Proposed Flowering Age	Add justification
	Quantity class of viable seeds produced	Proposed Number of Seeds	Add justification
	Reproductive strategy	Proposed Reproductive Strategy	Add justification
	Ability to colonise improved habitat	Proposed Dispersal	Add justification
	Seedbank persistence	Proposed Persistence	Add justification
	Lifespan	Proposed Lifespan	Add justification
SAII (Serious and Irreversible Impacts)	Threshold Type	Proposed Threshold Type	Add justification
	Threshold Size	Enter Proposed Threshold Size (number, area etc)	Add justification

Glossary

Accuracy

How precisely the geographic coordinates represent the exact location of a species sighting.

Adjacent remnant area

The area of Moderate to Good condition native vegetation of which the BioBanking site or development site is a part, which is less than 100 metres from the next area of native vegetation. Adjacent remnant area provides landscape context to the BioBanking or development site and may extend onto adjoining land.

Analysis set

A named list of census and species taxonomic assignments used to perform analyses.

Application Program Interface (API)

Technology for transmitting data over the internet and allowing programmatic access to that data using standard internet protocols. These protocols are used for system to system data access. It enables IT developers and system integrators to embed BioNet data directly into software applications.

As-held

'As-held' accuracy refers to the provision of coordinates for a sighting at the same level of detail/accuracy as it is stored in the BioNet Atlas database.

ASMS

The secure portal through which credentials are entered to access a number of OEH applications, including BioNet Atlas.

Benchmarks (vegetation condition benchmarks)

Quantitative measures of the range of variability in vegetation condition where there is relatively little evidence of modification by humans since 1750, the beginning of the Industrial Revolution. Benchmarks are defined for specified variables for vegetation communities. Vegetation with relatively little evidence of modification generally has minimal timber harvesting (few stumps, coppicing, cut logs), minimal firewood collection, minimal exotic weed cover, minimal grazing and trampling by introduced or overabundant native herbivores, minimal soil disturbance, minimal canopy dieback, no evidence of recent fire or flood, not subject to high frequency burning, and evidence of recruitment of native species. Published benchmarks are available by vegetation class (sensu Keith 2004). Alternatively, benchmark data can also be obtained from other published sources or by establishing reference sites.

BioBanking site

Land designated by a BioBanking agreement to be a BioBanking site.

Biodiversity Conservation Act 2016 (BC Act)

The legislation governing the conservation of NSW's biodiversity. Replaces the *Threatened Species Conservation Act (TSC) 1995*. Refer to www.legislation.nsw.gov.au/#/view/act/2016/63.

Biodiversity credits

The currency used to assess biodiversity loss and gain in the BAM. All threatened species or populations in New South Wales must be allocated to one of two biodiversity classes; species credit or ecosystem credit.

Biodiversity values

Include composition, structure and function of ecosystems, and include (but are not limited to) threatened species, populations and ecological communities and their habitats, as defined by the BC Act.

BioNet Atlas

The name of the application that houses a number of biodiversity data collections (or modules), including Species sightings, Systematic Surveys and Threatened Biodiversity. It includes both the publicly available Search module and the secure (accessed via a login) modules that allow users to search, upload and edit information. The level to which users can interact with the modules and the available information is dependent on the user's role assigned.

BioNet team

The Biodiversity Information Sciences (BIS) team within OEH that is responsible for the maintenance of the BioNet Atlas application and associated data. They can be contacted at bionet@environment.nsw.gov.au.

BioNet Vegetation Classification

An application physically separates the BioNet Atlas. Contains information on plant community types (PCTs) and NSW Landscapes.

CAPS

Census of Australian Plant Species. A unique identification code for individual plant species, as maintained by the Office of Environment and Heritage.

CAVS

Census of Australian Vertebrate Species taxa. A unique identification code for individual vertebrate species. The list may be downloaded at: www.environment.nsw.gov.au/resources/wildlifelicences/CAVS.xls

Census

This is a time distinct assessment conducted within a survey at a designated site. Censuses form the primary source of data for a survey.

see also 'Replicate'.

Collection

see 'Data Collection'.

Credit Calculator

A computer program that applies the methodology and calculates the number and classes of credits required at a development site or created at a BioBanking site.

Custodian

Organisation or individual responsible for ensuring the accuracy, currency, storage, security and distribution of a data set. The custodian is not necessarily the copyright holder, or the author of the data.

Data collection

A group of data that share similar attributes.

Dataset

A unique name given to a group of data within a collection. The dataset defines the level of access (view/edit) that individual users have for particular surveys.

Denatured

'Denatured' locations are those locations for which the coordinates have been rounded in such a way as to obfuscate the true location, which generally applies to locations of Sensitive species for which are at risk of disturbance.

Development

Includes development within the meaning of the *Environmental Planning and Assessment Act 1979* and includes an activity within the meaning of Part 5 of that Act.

Development site

An area of land that is subject to a proposed development for which a BioBanking statement is sought or obtained.

Dynamic filter

Filter queries created by a user, in contrast to predefined (static) filters.

Ecosystem credits

The class of biodiversity credits created or required for the impact on general biodiversity values and some threatened species, i.e. for biodiversity values except threatened species or populations that require species credits. Species that require ecosystem credits are listed in the TBPD.

EEC

Endangered Ecological Community.

See also TEC, Threatened Ecological Community.

EPBC Act

Environment Protection and Biodiversity Conservation Act 1999

Expert

A person who has the relevant experience and/or qualifications to provide expert opinion in relation to the biodiversity values to which an expert report relates.

General biodiversity values

Biodiversity values assessed in the methodology excluding assessment of threatened species and populations.

Grassland

Native vegetation classified in the vegetation formation grasslands in Keith (2004). Grasslands are generally dominated by large perennial tussock grasses, a lack of woody plants, and the presence of broad-leaved herbs in intertussock spaces.

Habitat

An area occupied, periodically or occasionally, by a species, population or ecological community, including any biotic or abiotic component.

Herbfield

Native vegetation which predominantly does not contain an overstorey or midstorey and where the ground cover is dominated by non-grass species.

IBRA

Interim Biogeographic Regionalisation for Australia.

LGA

Local government area.

Low condition vegetation

Vegetation that is:

- Native woody vegetation with native overstorey percent foliage cover <25% of the lower value of the overstorey percent foliage cover benchmark for that vegetation type, and
- <50% of ground cover vegetation is indigenous species, or
- >90% of ground cover vegetation is cleared.

Native grassland, wetland or herbfield where:

- <50% of ground cover vegetation is indigenous species, or
- >90% of ground cover vegetation is cleared.

If native vegetation is not in Low condition, it is in Moderate to Good condition.

Metadata

Data providing information about other data.

Mitchell landscape

Landscapes with relatively homogeneous geomorphology, soils and broad vegetation types, mapped at a scale of 1:250 000.

Moderate to Good condition vegetation

Native vegetation that is one of the following:

- Native woody vegetation where the mature overstorey percent foliage cover is >25% of the lower value of the mature overstorey percent foliage cover benchmark for that Vegetation Type
- >50% of the vegetation in the ground layer is indigenous species AND there is >10% is ground cover
- Native grassland, wetland or herbfield where >50% of the ground layer is indigenous species AND there is >10% ground cover.

Module

BioNet Atlas is a composite database comprising multiple data collections. These data collections are managed through a number of modules (distinct menu headings) These include;

- Species sightings search
- Import spreadsheet
- Species sightings
- Fauna surveys
- Flora surveys
- Codes

- Species names
- Threatened biodiversity
- Admin.

More appropriate local data

Data that more accurately reflect local environmental conditions as certified by the Chief Executive of OEH in relation to the Vegetation Benchmarks Database, the Vegetation Types Database and the TBPD.

Observer

Generally, refers to the name of the person who sighted/recorded a species. Also, a generic term used to describe an individual recorded within any of the three modules of BioNet Atlas, which also includes 'principals' and 'custodians'.

OEH

The Office of Environment and Heritage. The body of the NSW state government responsible for maintaining the BioNet Atlas. The OEH sits within the Department of Premier and Cabinet.

Offset rules

Circumstances in which credits can be used (retired) for a development to improve or maintain biodiversity values.

Pages

The pages within the surveys module represent the distinct tiers of the survey structure, e.g. Survey, Site and Replicates. There is also a page for searching.

Patch size, including Low condition vegetation

The area of Moderate to Good and Low condition native vegetation of which the BioBanking site or development site is a part, which is less than 100 m from the next area of native vegetation. Patch size, including Low condition vegetation, provides landscape context to the BioBanking or development site, and may extend onto adjoining land.

Percent cleared

The percentage of a vegetation type that has been cleared within an IBRA Region as a proportion of its pre-1750 extent, as identified in the Vegetation Types Database.

Percent foliage cover

The percentage of ground that would be covered by a vertical projection of the foliage and branches and trunk of a plant or plants.

Percent vegetation cover (percent native vegetation cover in the landscape, surrounding vegetation cover)

The percentage of native vegetation cover in the 100 ha and 1000 ha assessment circles in which the vegetation zone is located. The percent native vegetation cover within the assessment circles is visually estimated from aerial or satellite imagery, taking into account both cover and condition of vegetation.

PCT

Plant community type.

Plot

An area in which some of the 10 site attributes that make up the Site Value score are assessed in a vegetation zone.

Pop-up

Distinct windows that appear on-screen allowing for data entry, review or to convey information.

Principal

The primary contact for the survey. The details for this person, or organisation are stored in an Observer table that is shared between all the modules of BioNet Atlas.

Recorder

An individual who took part in conducting a replicate within the Flora surveys module. The details for this person are stored in an Observer table that is shared between all the modules of BioNet Atlas.

Red flag area

An area of land at the development site with high biodiversity conservation values where the impact of the development on biodiversity values cannot be offset by the retirement of biodiversity credits in order to improve or maintain biodiversity values under the BioBanking Scheme. The Chief Executive of OEH may determine that strict avoidance of the red flag area is unnecessary in certain circumstances.

Reference sites

Relatively unmodified sites used to obtain local benchmark information when benchmarks in the Vegetation Benchmark Database are too broad or otherwise incorrect for the vegetation type and/or local situation. Benchmarks can also be obtained from published sources.

Relational database

A database structured to recognise relations between stored items of information.

Replicate

Also known as a Census. This is a time distinct assessment conducted within a flora survey at a designated site. Replicates form the primary source of data for a survey. The details for replicates are entered in to the tabs of the Replicates page.

Repository

The overarching term for the brand that applies to all data collections and associated datasets. Bionet is the repository for biodiversity data.

Security dataset

In relation to analysis sets, determines whether a user (other than the analysis set owner) can open or edit the analysis set.

see also Dataset

Sensitive species data policy

This policy builds on the *Biodiversity Conservation Act 2016* and protects the release of data pertaining to threatened species that are flagged as sensitive by biodiversity managers within the OEH. For further information please refer to the Policy (www.environment.nsw.gov.au/policiesandguidelines/SensitiveSpeciesPolicy.htm)

Sighting

An individual record. At a minimum a sighting will comprise details about the species, date recorded, location, the name of the person(s) who identified the species and method of observation.

Site

A specific location assessed by the methods referred to within the survey data. A single site may be used within multiple surveys within the Flora surveys, as each survey uses a different methodology. Additionally, a single site may be referred to within both the Flora surveys and fauna modules of the BioNet Atlas.

Site attributes

Attributes used to assess Site Value and threatened species habitat. The 10 site attributes are native plant species richness, native overstorey cover, native midstorey cover, native ground cover (grasses), native ground cover (shrubs), native ground cover (other), exotic plant cover (as a percentage of total ground and midstorey cover), number of trees with hollows, proportion of overstorey species occurring as regeneration, and total length of fallen logs.

Site number

A unique identifier of an individual site saved within the Flora or Fauna surveys module. This should be the primary reference used for any queries lodged with the BioNet regarding a site, in conjunction with survey name.

Site Value

A quantitative measure of structural, compositional and functional condition of native vegetation, measured for property vegetation plans (PVPs) and BioBanking assessments using the 10 site attributes listed above.

Species credits

The class of biodiversity credits created or required for the impact on threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates. Species that require species credits are listed in the TBPD.

Species Names

A data collection within BioNet Atlas that contains taxonomic information for flora, fauna and fungi.

Species Sightings

A data collection within BioNet Atlas that contains sightings records for non-systematic survey data.

Stratification

The arrangement or classification of something into different groups. In the context of the flora surveys module, specifically refers to site information.

String

A linear sequence of characters, words or other data.

Sub-tabs

Are nested underneath tabs and split the details into logically structured components. These occur only at the Records tab of the Fauna census maintenance page and form a distinct tier of the record's information; i.e. Observer, Location and Sighting. Depending on your census type there may only be one or two sub-tabs displayed

Survey

Defines how the basic components of the data are arranged. A single survey is consistent for methods (e.g. the format of data capture), often has a limited set of recorders and is usually defined in terms of a spatial limit.

Survey name

A unique identifier of an individual survey saved within the Flora and Fauna surveys module. This should be the primary reference used for any queries lodged with the BioNet regarding survey data.

Systematic surveys

A data collection with BioNet Atlas that contains records for flora and fauna systematic surveys. 'Systematic surveys' refers to flora and fauna survey data that captures survey effort (i.e. number of people hours involved, number of traps per night) and the ability to infer negative data (i.e. absence data or sites where sightings were not made).

Tabs

Distinct sections of the pages of the Flora surveys module. Each page forms a distinct tier of the Flora surveys module; i.e. Survey, Site and Replicate. The tabs of each of these pages split the data into logically structured components.

Threatened Biodiversity app

A publicly available app that allows users to search on details of species profiles, by species, region, habitat or conservation project. See www.environment.nsw.gov.au/threatenedspeciesapp/

Threatened Biodiversity Profiles

A data collection of information for all threatened species, endangered populations, threatened ecological communities and key threatening processes listed under the Biodiversity Conservation Act. Includes description, habitat, threats, assessment and spatial distribution information.

TBPD

see Threatened Biodiversity Profile Database.

Threatened Biodiversity Profile module

A module of the BioNet Atlas application which contains extensive information on NSW – listed threatened biodiversity. It is the source of information for the threatened species website and the BAM Credit Calculator.

Threatened species

Critically Endangered, Endangered or Vulnerable species, Endangered populations and endangered ecological Communities as defined in Part 4 of the BC Act, or any additional threatened species listed under Part 13 of the EPBC Act as Critically Endangered, Endangered or Vulnerable.

Transect

A line or narrow belt along which environmental data are collected.

TSC Act

Threatened Species Conservation Act 1995. Replaced by the *Biodiversity Conservation Act 2016*.

Threatened Species app

see Threatened Biodiversity app.

User interface

Enables people to interact directly with the data through an application of website. This is the name of the web-based application that a person can access or log in to, to utilise the data.

Vegetation class

Level of classification of vegetation communities defined in Keith (2004). There are 99 vegetation classes in New South Wales.

Vegetation formation

A broad level of vegetation classification as defined in Keith (2004). There are 12 vegetation formations in New South Wales.

Vegetation type

The finest level of classification of native vegetation used in the methodology. Vegetation types are assigned to vegetation classes, which in turn are assigned to vegetation formations. There are approximately 1600 vegetation types within New South Wales.

Vegetation Zone

A relatively homogenous area in a clearing or offset area that is the same vegetation type and broad condition. A single Vegetation Zone must not contain a mix of vegetation in Moderate to Good condition and Low condition.

Wetland

Native vegetation classified in the vegetation formation defined as Freshwater Wetland in Keith (2004).

Woody native vegetation

Native vegetation that contains an overstorey and /or midstorey that predominantly consists of trees and /or shrubs.

YETI

A standalone MS Access database from which the Flora surveys module has evolved. See 'Flora surveys' and 'Systematic surveys'.