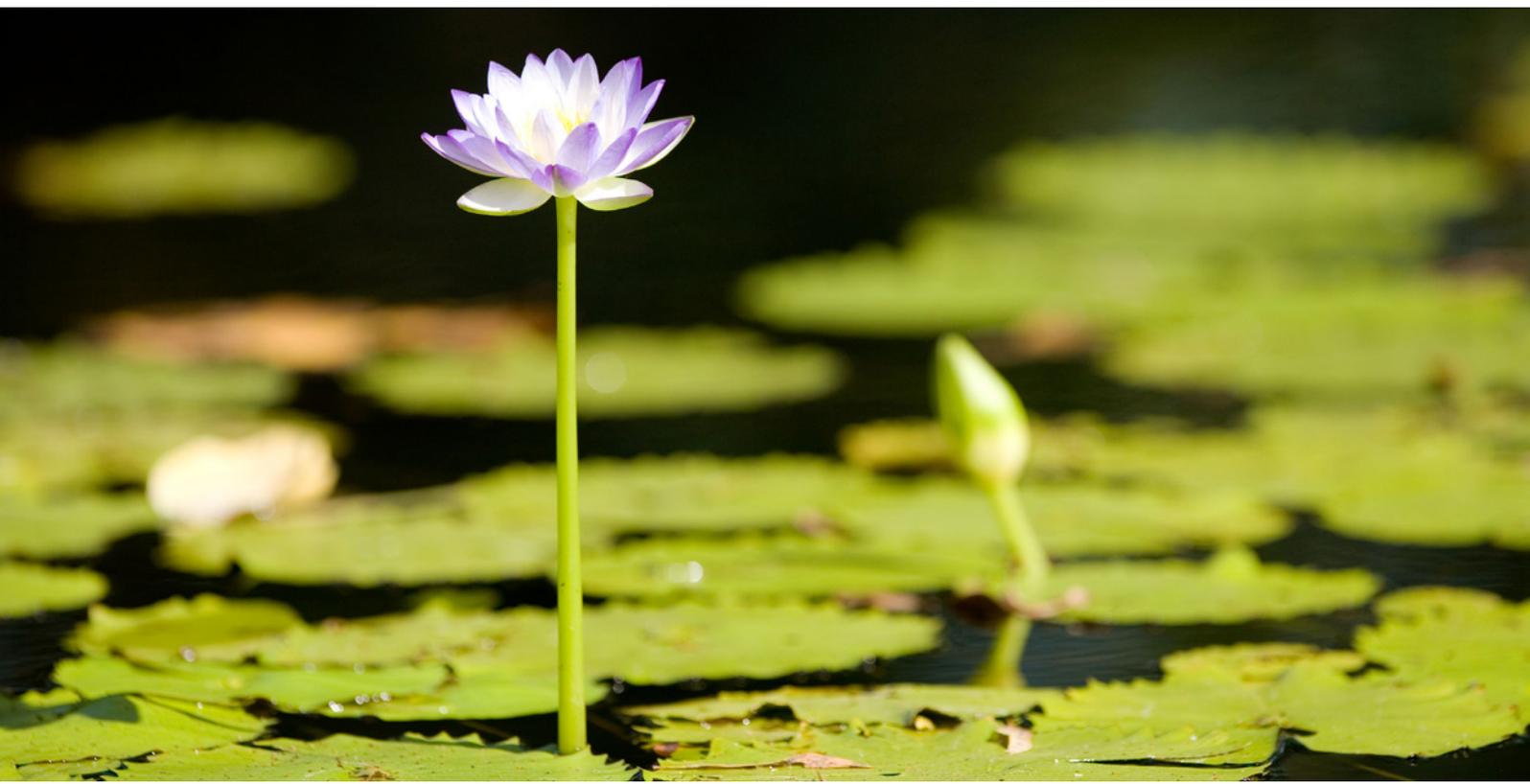




**Australian Government**

**Department of the Environment and Energy**

# Guidelines for biological survey and mapped data



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## Introduction

The Department of the Environment and Energy (the Department) collates, maintains and uses point-based fauna and flora survey and mapped data to support decision making on referral applications, assessments and approvals under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and to assist in the protection and recovery of species and communities. Such data are drawn from a wide range of sources, including from data holdings generated through the implementation of the EPBC Act and from monitoring activities under Natural Resource Management programs.

Historically, the quality of such data has varied considerably and this directly affects the rigour and reliability of information products generated from them. This document seeks to improve on this by outlining data and information requirements for biological survey and mapped data. This includes species data, including threatened species, migratory species, listed marine species, cetaceans and invasive species.

## The Department's data requirements

For species listed under the EPBC Act, the following data and information should be provided with referral applications, environmental impact assessments and meeting approval conditions. Data should be emailed to [speciesmetadata@environment.gov.au](mailto:speciesmetadata@environment.gov.au) noting the EPBC Act Referral number. Provision of data and the related information indicated will help facilitate decision making by the Department. Information derived from the data provided will be used more widely by the Department to assist the ongoing protection of species and communities listed under the EPBC Act:

- Incidental records of listed species in the project area
- Records of listed species from systematic flora/fauna surveys relevant to the project area
- Details of all systematic flora/fauna surveys (site/survey details only) relevant to the project area
- Records of non-listed species where the matter protected by the Commonwealth legislation is the environment
- Derived indicative distribution maps of likelihood of occurrence of endangered ecological communities or species, including breeding and other ecologically important areas
- Documentation describing the data. The documentation should include information about the taxonomy used and a description of the survey methods (see Data/Metadata Template - SpeciesObservationDataTemplate.xlsx)

The core data for biological observations are:

- Scientific name of species
- Geocode of observation – in latitude and longitude
- Datum of the geocode, i.e. GDA 94
- Precision of the geocode - radius in metres, may be a grid block; GPS coordinates have a precision of 15 – 100 metres
- Site identifier – a unique survey number (and visit number) as generated and maintained by the custodian
- Date of the observation

The following supplementary information is also desirable (where available/applicable):

- Common name
- Number of individuals counted
- Reliability of the observation, e.g. confirmed, doubtful, backed by voucher specimen collected under permit (include voucher number)
- Referral number i.e. the EPBC Act Referral number
- Data source and record identifier - to distinguish data collated from other sources

The preferred formats for providing data are shown in the Data/Metadata Template. Basic metadata should be provided for all data.

Data provided to the Department undergoes a number of validation checks before it is used. The Department may need to approach the custodian for further checking and verification where records do not meet all checks.

As a general rule, all data will be made publicly available through the following Creative Commons licence:

- Creative Commons Attribution (CC-BY) Version 4.0 International 

CC-BY is the most open licence possible in the AUSGOAL Framework. It gives users the right to copy, redistribute, display and adapt the material for any purpose. The only requirement is that the user credit/attribute the creator of the work and indicate if changes were made.

Assessment of the sensitivity of the data will be undertaken as per the [Department's Sensitive Ecological Data – Access and Management Policy \(2016\)](#). This policy provides a process for identifying and managing sensitive ecological data, particularly EPBC Act listed and non-listed species and ecological communities. Data deemed as sensitive may undergo transformation/denaturing prior to public release.

## Data format and file specifications

### Database point records

Data should preferably be supplied as csv or MS Excel format files as indicated in the Data/Metadata Template. Where delimitation is by commas, double quotes (“an example”) should be placed around text fields as these may already include commas.

Fields with unknown or null values should be set to blank or ‘null’, never zero.

### Spatial data

Spatial data should be supplied in an electronic format that can be read by the ESRI ArcGIS geographic information system software. The preferred format is ESRI shapefile or KML file.

All datasets and their attributes should be documented according to the Data/Metadata Template.

Spatial information should be supplied in geographic decimal degree coordinates. The datum must be specified. The preferred datum for data provided is the Geocentric Datum of Australia (GDA94).

If a non-geographical projection is used, then information about the projection type and its parameters need to be provided. This includes information about major and minor axes, central meridian, standard parallels, latitude origin and false origin and the datum and spheroid.

Where indicative distribution maps are prepared the following mapped categories should be utilised:

Rank	Category	Code
10	Listed Critical Habitat	CH
21	Breeding known to occur within area	BK
22	Roosting known to occur within area	RK
23	Foraging known to occur within area	FK
24	Congregation or aggregation known to occur within area	AK
25	Migration route known to occur within area	MK
26	Species or species habitat known to occur within area	SK
27	Community known to occur within area	CK
28	Translocated population known to occur within area	TK
31	Breeding likely to occur within area	BL
32	Roosting likely to occur within area	RL
33	Foraging likely to occur within area	FL
34	Congregation or aggregation likely to occur within area	AL
35	Migration route likely to occur within area	ML
36	Species or species habitat likely to occur within area	SL
37	Community likely to occur within area	CL
41	Breeding may occur within area	BM
42	Roosting may occur within area	RM
43	Foraging may occur within area	FM
44	Congregation or aggregation may to occur within area	AM
45	Migration route may occur within area	MM
46	Species or species habitat may occur within area	SM
47	Community may occur within area	CM
50	Extinct within area	EX

These categories are designed to indicate areas of biological importance, and the spatial certainty of the information. For example, where a species is precisely mapped at a local scale it would be mapped as *species or species habitat known to occur within area*; for a species which only has a general distribution map it would be mapped as *species or species habitat may occur within area*.

Basic metadata should be provided for the spatial data as identified in the Data/Metadata Template.

