Types of land on the Biodiversity Values Map
Contents

Purpose of this document 1
Introduction 2

Coastal wetlands and littoral rainforest mapped under the State Environmental Planning Policy (Coastal Management) 2018 3
   Description of the mapping 3
   Who develops and maintains the mapping? 3
   How is the mapping developed? 3
   Further information on the mapping 3
   How is the mapping used in the Biodiversity Values Map? 4

Core koala habitat identified in a plan of management under State Environmental Planning Policy (Koala Habitat Protection) 2019 5
   Description of the mapping 5
   Who develops and maintains the mapping? 6
   How is the mapping developed? 6
   Further information on the mapping 6
   How is the mapping used in the Biodiversity Values Map? 6

Declared Ramsar wetlands defined by the Environment Protection and Biodiversity Conservation Act 1999 7
   Description of the mapping 7
   Who develops and maintains the mapping? 7
   How is the mapping developed? 8
   Further information on the mapping 8
   How is the mapping used in the Biodiversity Values Map? 8

Land containing threatened species or threatened ecological communities identified as potential serious and irreversible impacts 9
   Description of the mapping 9
   Who develops and maintains the mapping? 9
   How is the mapping developed? 10
   How is the mapping used in the Biodiversity Values Map? 10

Protected riparian land 11
   Description of the mapping 11
   Who develops and maintains the mapping? 11
   How is the mapping developed? 11
   Further information on the mapping 12
   How is the mapping used in the Biodiversity Values Map? 12

High conservation value grasslands or groundcover 13
Description of the mapping 13
Who develops and maintains the mapping? 13
How is the mapping developed? 13
Further information on the mapping 13
How is the mapping used in the Biodiversity Values Map? 13

Old growth forest 14
Description of the mapping 14
Who develops and maintains the mapping? 14
How is the mapping developed? 14
Further information on the mapping 15
How is the mapping used in the Biodiversity Values Map? 15

Rainforest 16
Description of the mapping 16
Who develops and maintains the mapping? 16
How is the mapping developed? 16
Further information on the mapping 17
How is the mapping used in the Biodiversity Values Map? 17

Declared areas of outstanding biodiversity value 18
Description of the mapping 18
Who develops and maintains the mapping? 18
How is the mapping developed? 18
Further information on the mapping 18
How is the mapping used in the Biodiversity Values Map? 18

Council nominated areas that the Minister considers will conserve biodiversity at bioregional or state scale 20
Description of the mapping 20
Who develops and maintains the mapping? 20
How is the mapping developed? 20
Further information on the mapping 20
How is the mapping used in the Biodiversity Values Map? 20

Any other land that in the opinion of the Environment Agency Head is of sufficient biodiversity value to be included 21
Description of the mapping 21
Who develops and maintains the mapping? 21
How is the mapping developed? 21
Further information on the mapping 21
How is the mapping used in the Biodiversity Values Map? 21
Purpose of this document

This document provides a description of the types of land that can be included on the Biodiversity Values (BV) Map. This includes a brief description of the type of land, the organisation that develops and maintains the mapping and the process they follow and where more information can be found. This document will be updated periodically as new and modified mapping is included on the BV Map.

Photo 1  Swift parrots (*Lathamus discolor*). Ken Stepnell/DPIE
Introduction

The Biodiversity Values (BV) Map is prepared by the Department of Planning, Industry and Environment under Part 7 of the Biodiversity Conservation (BC) Act 2016. The BV Map is one of the triggers of the Biodiversity Offset Scheme (BOS) threshold established under the Biodiversity Conservation (BC) Regulation 2017 (cl. 7.1).

The BOS threshold is used to determine when it is necessary to engage an accredited assessor to apply the Biodiversity Assessment Method (BAM) to assess the impacts of a proposal. It is used for local developments that require council consent and clearing native vegetation that does not require council consent in urban areas and areas zoned for environmental conservation (under the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017).

The initial version of the BV Map was published on the 25 August 2017. The BV Map can be viewed through the Biodiversity Values Map and Threshold (BMAT Tool). General information about the BV Map can be found on the BV Map webpage.

The BV Map is updated periodically to include new map layers or refinements to existing layers. Landholders can request a review of the mapping where they consider there is an error. Information on applying for a map review and an outline of the changes made in each update is provided on the BV Map webpage. You can access BV Map spatial data through the Sharing and Enabling Environmental Data (SEED) Portal.

Clause 7.3(3) of the Biodiversity Conservation Regulation 2017 describes 11 types of land the Environment Agency Head may include on the BV Map. These land types are:

a. coastal wetlands and littoral rainforest mapped under the State Environmental Planning Policy (Coastal Management) 2018
b. core koala habitat identified in a plan of management under State Environmental Planning Policy No 44 – Koala Habitat Protection (SEPP 44) (replaced by SEPP (Koala Habitat Protection) 2019 on 1 March 2020)

c. declared Ramsar wetlands defined by the Environment Protection and Biodiversity Conservation Act 1999

d. land containing threatened species or threatened ecological communities identified as being at risk of serious and irreversible impacts (SAII) under section 6.5 of the BC Act

e. protected riparian land
f. high conservation value grasslands or groundcover
g. old growth forest identified in mapping developed under the National Forests Policy Statement

h. rainforest identified in mapping developed under the National Forests Policy Statement

i. declared areas of outstanding biodiversity value

j. council nominated areas with connectivity or threatened species habitat that the Minister considers will conserve biodiversity at a bioregional or state scale

k. any other land that in the opinion of the Environment Agency Head is of sufficient biodiversity value to be included.
Coastal wetlands and littoral rainforest mapped under the *State Environmental Planning Policy (Coastal Management)* 2018

**Description of the mapping**

The Coastal Management SEPP defines the coastal zone and establishes state-level planning priorities and development controls to guide decision-making for development within the coastal zone. One of the four coastal management areas is the coastal wetlands and littoral rainforests area. The Coastal Management SEPP commenced on 3 April 2018. This SEPP consolidates and updates SEPP 14 (Coastal Wetlands), SEPP 26 (Littoral Rainforests) and SEPP 71 (Coastal Protection), which are now repealed.

The coastal wetlands and littoral rainforests area are defined in the *Coastal Management Act 2016* as land which displays ‘the hydrological and floristic characteristics of coastal wetlands or littoral rainforests and land adjoining those features’. The mapping includes coastal wetlands and littoral rainforest across all local government areas, including those in Greater Metropolitan Sydney. The coastal wetlands and littoral rainforest area also include a separate map layer of a 100-metre proximity area, applying to all land zones, around the coastal wetlands and littoral rainforests. In late 2018, the then Department of Planning and Environment conducted a minor update of the coastal wetlands and littoral rainforests area map to improve its accuracy and reflect recently approved land use change. The amended mapping took effect on 17 December 2018.

**Who develops and maintains the mapping?**

The Department’s Planning and Assessment Division.

**How is the mapping developed?**

*Fact sheet 4: Mapping of Coastal Management Areas (Technical)* outlines the criteria and methods used to identify the coastal management areas, including the coastal wetlands and littoral rainforests area.

**Further information on the mapping**

Information on the Coastal Management SEPP is available on the Department’s website. This includes a link to the Coastal SEPP Mapping Tool and Fact sheets.
The spatial data and metadata are available through the Sharing and Enabling Environmental Data (SEED) Portal:

- **State Environmental Planning Policy (Coastal Management) 2018 – SEED dataset**

How is the mapping used in the Biodiversity Values Map?

The former SEPP 14 – Coastal Wetlands and SEPP 26 – Littoral Rainforest were replaced with the coastal wetlands and littoral rainforest area in BV Map Version 3 published on the 9 November 2018. The proximity area around a coastal wetland or littoral rainforest were not included as it represents land adjacent to, or in proximity to, the coastal wetland or littoral rainforest rather than the vegetation community itself.

Changes arising from the amended coastal wetlands and littoral rainforests area mapping were included in BV Map Version 5 published on the 27 February 2019.
Core koala habitat identified in a plan of management under State Environmental Planning Policy (Koala Habitat Protection) 2019

Description of the mapping

The SEPP (Koala Habitat Protection) 2019 came into effect on the 1 March 2020 and replaces the former SEEP 44 – Koala Habitat Protection. The key changes and features of the new SEPP are outlined in Frequently asked questions.

The new policy provides for the development of Koala Plans of Management (KPoM) that can cover the entire or part of an LGA (local government area) listed in Schedule 1 of the Policy. These plans can identify areas of core koala habitat and identify special provisions to control the development of that land. Plans of management that were developed under the former SEPP 44 continue to apply. The new Koala Habitat Protection Guideline outlines the survey method for identifying core koala habitat in new KPoMs to be made under the SEPP (Koala Habitat Protection) 2019.

Currently, there are six KPoMs that have areas included on the BV Map. In the existing KPoMs some councils use different terms to describe core koala habitat in their KPoMs such as Primary habitat and Preferred habitat. The mapping category that the Environment Agency Head considers to be ‘core koala habitat’ are listed below:

<table>
<thead>
<tr>
<th>LGA</th>
<th>Mapping category considered to be ‘core koala habitat’</th>
<th>Further information on council’s websites</th>
</tr>
</thead>
</table>
Types of land on the Biodiversity Values Map

Who develops and maintains the mapping?
Local councils develop and maintain the mapping in their KPoMs. Mapping changes need to be approved by the Planning Secretary.

How is the mapping developed?
Refer to each council's website (see above).

Further information on the mapping
The spatial data and metadata of the existing KPoMs are available through the Sharing and Enabling Environmental Data (SEED) Portal:

How is the mapping used in the Biodiversity Values Map?
The mapping in the approved KPoMs that the Environment Agency Head considers is core koala habitat are included on the BV Map.
Declared Ramsar wetlands defined by the Environment Protection and *Biodiversity Conservation Act 1999*

**Description of the mapping**

Twelve NSW wetlands are listed under an international convention known as the Ramsar Convention that aims to protect their ecological character. Its full name is the Convention on Wetlands of International Importance. The Australian Government signed the Convention and it entered into force in Australia in 1975. The Australian Government can, with the support of state and territory governments, nominate sites to be listed under the Convention. Sites must meet at least one of nine internationally accepted criteria. Ramsar wetlands are protected as a ‘Matter of National Environmental Significance’ under the Australian Government’s *Environmental Protection and Biodiversity Conservation Act 1999*.

The 12 Ramsar sites in NSW are:

- Blue Lake
- Fivebough and Tuckerbil Swamps
- Gwydir Wetlands
- Hunter Estuary Wetlands
- Lake Pinaroo (Fort Grey Basin)
- Little Llangothlin Nature Reserve
- Macquarie Marshes
- Myall Lakes
- Narran Lake Nature Reserve
- NSW Central Murray Forests
- Paroo River Wetlands
- Towra Point

National Parks and Wildlife Service (NPWS) is the sole or part land manager for ten of the sites. More information on the Convention and each of the NSW sites is available on [Internationally significant wetlands](#).

**Who develops and maintains the mapping?**

The Australian Government’s Department of Environment and Energy (DoEE) maintain the mapping. The Department’s Environment, Energy and Science Group advise DoEE on the mapping.
How is the mapping developed?

Mapping is developed as part of the nominations for new sites and alterations to the boundaries of existing sites.

Further information on the mapping

A map of NSW Ramsar wetlands and a data quality statement are available through the SEED Portal:
https://datasets.seed.nsw.gov.au/dataset/ramsar-wetlands-of-nsw0c113

Digital data for the National Map of Ramsar wetlands is available from this Australian Government website:

How is the mapping used in the Biodiversity Values Map?

The 12 Ramsar sites in NSW are included on the BV Map.
Land containing threatened species or threatened ecological communities identified as potential serious and irreversible impacts

Description of the mapping

Threatened species and threatened ecological communities (TECs) that are identified under s. 6.5 of the Biodiversity Conservation Act 2016 as being at risk of a serious or irreversible impact (SAII) are those considered most at risk of extinction from development impacts or activities. Decision-makers are required to determine whether a proposed development or clearing activity will result in a serious and irreversible impact.

The Biodiversity Conservation Regulation 2017 identifies four principles to assist decision-makers to determine if an SAII would occur. More information is available from the Department’s webpage on Serious and irreversible impacts of development on biodiversity. This includes a guidance document that provides supporting information to assist with the application of the SAII principles. The webpage lists the threatened species and TECs that are at risk of an SAII. As of September 2019, there are 390 threatened species and 51 TECs that are considered to meet at least one of the SAII principles. The Department will periodically update the list of entities at risk of an SAII. At this stage mapping for 53 SAII species and 23 SAII TECs are included on the BV Map. The Department has undertaken a prioritisation of the unmapped SAII species and those that occur in areas undergoing development are a high priority to be mapped.

Who develops and maintains the mapping?

The Department’s Environment, Energy and Science Group.
How is the mapping developed?

**Threatened species at risk of a SAII**

The Department has developed the *Method for mapping threatened species for inclusion in the Regulatory framework*. This document outlines a standardised approach to the mapping of threatened species that are included in the BV Map and the Native Vegetation Regulatory Map. The aim of the approach is to map areas where there is a high likelihood of finding the species. The draft methods and data used to map each species will be reviewed by an external expert prior to the mapping being considered for inclusion in the BV Map.

**Threatened Ecological Communities at risk of a SAII**

Where available, existing mapping has been used. The Department will develop a standard method for mapping TECs for inclusion into regulatory maps that will be used to refine existing TEC mapping and guide development of new mapping for TECs.

*Photo 7*  Blue Gum High Forest Critically Endangered Ecological Community. John Spencer/DPIE

How is the mapping used in the Biodiversity Values Map?

New or revised mapping that is approved by the Environment Agency Head or their delegate will be included in an update to the BV Map.
Protected riparian land

Description of the mapping
Protected riparian land is land within 20 metres of a bed or bank of a named natural watercourse or waterbody.
Only topographic streams identified as ‘natural’ and that had an assigned name are included in the BV Map.

Who develops and maintains the mapping?
The Department’s Environment, Energy and Science Group.

How is the mapping developed?
The clearing of trees on land that is susceptible to erosion or is otherwise environmentally sensitive was regulated under the Soil Conservation Act. Subsequently, a Natural Resources Management Plan - Vulnerable Land was made under the repealed Native Vegetation Regulation 2005. Protected riparian land was one form of vulnerable land and applied to the stream bed plus 20 m from the upper bank of named streams.

The protected riparian layer used in the BV Map has been created from a combination of available datasets. This includes mapping of various hydrological features that appear on topographic maps that are digitised by NSW Spatial Services and stored in the Digital Topographic Database. A 22.5 metre buffer was applied to the centreline of smaller watercourses and a 20m buffer applied to larger watercourses and water bodies.

As the mapping of water bodies includes harbours, bays and estuaries where the Biodiversity Offsets Scheme does not apply, a layer of these waterbodies was created and erased from the protected riparian layer. In order to remove areas that have been cleared by recent developments, an ‘urban area’ layer of lots less than or equal to 1000m² within land zoned for residential, business or industrial was created and erased from the protected riparian land layer.
Further information on the mapping

The spatial data and metadata for Vulnerable Land – Protected Riparian are available through the SEED Portal:

How is the mapping used in the Biodiversity Values Map?

The protected riparian land layer with estuaries and urban areas removed has been included in the BV Map. In urban areas this has caused some sections of intact riparian vegetation to be removed and left small isolated areas on the BV Map. These were removed in BV Map Version 3 that was published on the 9 November 2018. The Department’s Environment, Energy and Science (EES) Group will develop a new method and mapping of protected riparian land. Once approved, this mapping will replace the existing layer in the BV Map.
High conservation value grasslands or groundcover

Description of the mapping

The Biodiversity Conservation Regulation 2017 (cl.7.3(3)(f)) states that areas of high conservation value grasslands or groundcover can be determined by:

- the ‘Interim Grasslands and Other Groundcover Assessment Method’ published by the Minister for the Environment in the Gazette on 25 August 2017, or
- an independent field assessment undertaken before the commencement of the Act (also the 25 August 2017).

No areas have been included on the BV Map at this stage.

Who develops and maintains the mapping?

The Department's Environment, Energy and Science Group will develop the mapping.

How is the mapping developed?

No mapping has been developed at this stage.

Further information on the mapping

Information on the Interim Grasslands and other Groundcover Assessment Method (IGGAM) is available on the Department's website.

How is the mapping used in the Biodiversity Values Map?

No areas have been considered for inclusion at this stage.
Old growth forest

Description of the mapping
Old growth forest was originally mapped at a regional scale using aerial photography interpretation techniques as a part of a Comprehensive Regional Assessment (CRA) undertaken between 1997 and 2000. The CRAs were a set of ecological assessments undertaken to inform the development of Regional Forest Agreements (RFAs) for the Upper and Lower North East, Southern and Eden regions of NSW. Old growth forests are currently defined as an ecologically mature forest where the effects of disturbances are now negligible.

Who develops and maintains the mapping?
The Department's Environment, Energy and Science Group.

How is the mapping developed?
The old growth mapping is maintained and continually updated using fine-scale digital mapping techniques and field survey. As this data was created at a regional scale, rather than an individual property scale, any map review of disputed old growth forest areas will be undertaken using the most recent aerial photography available to map the actual extent of old growth forest on the property.

Mapping is conducted in a 3D on-screen environment using specialised hardware and software and using high-resolution ADS digital imagery. Two assessors review the mapping and the results are stored in a database.
Further information on the mapping

Landholders with a Private Native Forest (PNF) Property Vegetation Plan (PVP) can also apply to have the map of old growth forest in their PVP reviewed, if they believe it is not accurate. The Protocol for re-evaluating old-growth forest on private property describes the methods used to identify and validate old growth forest on private land.

How is the mapping used in the Biodiversity Values Map?

Mapped areas of old growth forest are included on the BV Map.
Types of land on the Biodiversity Values Map

Rainforest

Description of the mapping
Rainforests were originally mapped at a regional scale using aerial photography interpretation techniques as a part of a Comprehensive Regional Assessment (CRA) undertaken between 1997 and 2000. The CRAs were a set of ecological assessments undertaken to inform the development of Regional Forest Agreements (RFAs) for the Upper and Lower North East, Southern and Eden regions of NSW.

Rainforests are currently defined as tree-dominated vegetation with rainforest species making up 50% or more of the crown cover, except where non-rainforest emergent species (including brush box and turpentine) occur and exceed 30% or more of the upper stratum crown cover.

Who develops and maintains the mapping?
The Department's Environment, Energy and Science Group

How is the mapping developed?
The rainforest mapping is maintained and continually updated on request by the Department using fine-scale digital mapping techniques and field survey. As this data was created at a regional scale, rather than on an individual property scale, any map review of disputed rainforest areas will be undertaken using the most recent aerial photography available to map the actual extent of rainforest on the property.
Mapping is conducted in a 3D on-screen environment using specialised hardware and software and using high-resolution ADS digital imagery. Two assessors review the mapping and the results are stored in a database.

Further information on the mapping
Landholders with a Private Native Forest (PNF) Property Vegetation Plan (PVP) can also apply to have the map of rainforest in their PVP reviewed, if they believe it is not accurate. The Protocol for re-evaluating rainforest on private property describes the methods used to identify and validate rainforest on private land.

How is the mapping used in the Biodiversity Values Map?
Mapped areas of rainforest are included on the BV Map.
Declared areas of outstanding biodiversity value

Description of the mapping

The Biodiversity Conservation Act 2016 (Part 3 - BC Act) gives the Minister for the Environment the power to declare areas of outstanding biodiversity value. These are special areas that contain irreplaceable biodiversity values that are important to the whole of NSW, Australia or globally.

The Biodiversity Conservation Regulation 2017 (Part 3) establishes the criteria for declaring areas of outstanding biodiversity values. The criteria have been designed to identify the most valuable sites for biodiversity conservation in NSW. Further information on areas of outstanding biodiversity values is available on the Department’s website.

Areas of declared critical habitat under the repealed Threatened Species Conservation Act 1995, (including Little Penguin and Wollemi Pine declared areas), have become the first areas of outstanding biodiversity values in NSW with the commencement of the BC Act. The following four critical habitat areas existing at the commencement of the BC Act are therefore taken to be areas of outstanding biodiversity values:

- Gould’s Petrel
- Little penguin population in Sydney’s Northern Harbour (at Manly)
- Michell’s Rainforest Snail on Stotts Island Nature Reserve
- Wollemi Pine

The Area of Outstanding Biodiversity Value register includes the declarations for these areas.

Who develops and maintains the mapping?

Nominators of proposed areas will be required to provide mapping of the areas.

How is the mapping developed?

The Department is developing Assessment Guidelines for interpreting the listing criteria for areas of outstanding biodiversity values and Nomination Guidelines that will outline the information required in nominations.

Further information on the mapping

Further information on areas of outstanding biodiversity value mapping will be made available on the Department’s website once the Assessment and Nomination Guidelines have been finalised.

How is the mapping used in the Biodiversity Values Map?

Of the four existing areas of outstanding biodiversity values, only the area for the Little penguin population at Manly includes private land and has been included on the BV Map. The other three areas of outstanding biodiversity value are entirely within NPWS reserves and as they are protected from development, they have not been included on the BV Map.
Photo 10  Little penguin (*Eudyptula Minor*) female at nest. Nicholas Carlile/DPIE
Council nominated areas that the Minister considers will conserve biodiversity at bioregional or state scale

Description of the mapping
The Biodiversity Conservation Regulation 2017 (cl.7.3(3)(jj)) states that:
‘land that, in the opinion of the council of the local government area concerned, contains vegetation connectivity features or threatened species habitat and whose inclusion in the Map will, in the opinion of the Minister, conserve biodiversity at a bioregional or State scale.’

No areas have been included on the BV Map at this stage.

Who develops and maintains the mapping?
The Department’s Environment, Energy and Science Group will develop Assessment and Nomination Guidelines.

The Assessment Guidelines will provide information on identifying land that contains vegetation connectivity or threatened species habitat that would conserve biodiversity at a bioregional or state scale. The Nomination Guidelines will outline the requirements for making a nomination including the information to support an assessment of the areas’ significance, consultation and endorsement of the nomination by council and the mapping data requirements. The Guidelines will also outline the process that the Department will use to assess the nominations and make recommendations to the Minister.

How is the mapping developed?
Studies and mapping that are developed by, and for, councils.

Further information on the mapping
No areas have been included on the BV Map at this stage.

How is the mapping used in the Biodiversity Values Map?
No areas have been included on the BV Map at this stage. Once the Assessment and Nomination Guidelines have been developed, they will be made available from the BV Map webpage. The Department will then call for nominations from councils. These will be assessed, and recommendations provided to the Minister. Areas endorsed by the Minister will be added to the BV Map.
Any other land that in the opinion of the Environment Agency Head is of sufficient biodiversity value to be included

Description of the mapping

The Environment Agency Head (EAH) has included land that contains a Nationally listed Endangered Ecological Community (EEC) and habitat of four endangered species listed on the NSW Biodiversity Conservation Act 2016 on land that is covered by the State Environmental Planning Policy (Kosciuszko National Park—Alpine Resorts) 2007. The EEC and threatened species are:

- Alpine Sphagnum Bogs and Associated Fens EEC
- Alpine she-oak skink (*Cyclodomorphus praeltus*)
- Guthega skink (*Liopholis Guthega*)
- Mountain pygmy possum (*Burramys parvus*)
- Perisher wallaby grass (*Rytidosperma vickeryae*)

The ‘EEC and threatened species mapping on land covered by the Alpine Resorts SEPP’ was included to ensure that future development within the resort areas would be subject to the Biodiversity Offsets Scheme.

Who develops and maintains the mapping?

The Department’s Environment, Energy and Science (EES) Group and NPWS developed and maintain the mapping.

How is the mapping developed?

The Department’s staff may propose land to be included on the BV Map under this criterion. These proposals will be provided to the EAH (or their delegate) for approval to include in the BV Map.

Further information on the mapping

Alpine Sphagnum Bogs and Associated Fens mapping and the Perisher wallaby grass were mapped as part of the Kosciuszko Resorts Vegetation Assessment 2003. Information on the mapping is available from the SEED Portal.

Information on the distribution of Mountain Pygmy Possum habitat is in an article published in the *Australian Zoologist*.

How is the mapping used in the Biodiversity Values Map?

The EEC and threatened species habitat mapping in the Alpine Resorts were included in BV Map Version 2 published on the 13 December 2017. Refinements to the mapping were included in BV Map Version 3 published on 9 November 2018.
Types of land on the Biodiversity Values Map

Photo 11  Alpine She-oak Skink (*Cyclodomorphus praealtus*). George Madani/DPIE

Photo 12  Mountain Pygmy-possum (*Burramys parvus*). Linda Broome/DPIE