Title	Ecological condition of terrestrial habitat
Abstract	This Indicator measures the intactness and naturalness of terrestrial vegetation as habitat to support biodiversity, without considering the indirect effects of fragmentation or connections with surrounding suitable habitat. This indicator (3.1a) is part of a family of measures on the condition and connectivity of habitat, including its capacity to support the needs of native plants, animals and ecosystems in NSW, as a proportion relative to that in the pre-industrial era. Ecological condition and ecological carrying capacity are used to estimate the 'state of biodiversity including undiscovered species' and ecological condition is used to estimate 'expected survival of all known and undiscovered species' is one of a series of indicators on the status of biodiversity and ecological integrity in NSW developed to contribute to assessing the performance of the Biodiversity Conservation Act 2016. The overarching indicator framework which outlines how indicators are related and derived is presented in the "method to assess biodiversity and ecological integrity across New South Wales" (OEH, 2018).

Resource locator

Data Quality Statement	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data quality statement for Ecological condition of terrestrial native vegetation indicator Function: download
Download Package	Name: Download Package Protocol: WWW:DOWNLOAD-1.0-http--download Description: Raster Data (TIFF) Function: download

Unique resource identifier

Code	2cf9b633-1b4e-43a0-a363-477c5bc08988
Presentation form	Document digital
Edition	1
Dataset language	English

Metadata standard

Name	ISO 19115
Edition	2016
Dataset URI	https://datasets.seed.nsw.gov.au/dataset/2cf9b633-1b4e-43a0-a363-477c5bc08988
Purpose	Legislative and regulatory requirements
Status	Completed
Spatial representation type	grid

Spatial reference system	
Code identifying the spatial reference system	4283
Spatial resolution	90 m
Additional information source	Love, J., Drielsma, M. J., Williams, K., Thapa, R., (2018) Data package for habitat condition indicators; 3.1a ecological condition, 3.1b ecological connectivity and 3.1c ecological carrying capacity. Biodiversity Indicator Program, NSW Office of Environment and Heritage, Sydney. OEH (2018). A Method to Assess Biodiversity and Ecological Integrity across New South Wales. NSW Office of Environment and Heritage, Sydney. Love, J., Drielsma, M. J., Williams, K., Thapa, R., (2018) A new integrated model-data fusion approach to measuring ecosystem quality for ecological integrity reporting. Biodiversity Indicator Program Implementation Report Series, NSW Office of Environment and Heritage, Sydney.
Topic category	

Keyword set

keyword value	ECOLOGY-Habitat VEGETATION FLORA-Native
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	140.844727
East bounding longitude	153.720703
North bounding latitude	-36.137875
South bounding latitude	-28.304381
NSW Place Name	NSW

Vertical extent information

Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711

Temporal extent

Begin position	1995-01-01
End position	N/A

Dataset reference date

Resource maintenance

Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
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Responsible party role	pointOfContact

Lineage

Ecological condition of terrestrial habitat is measured using a heuristic approach to predict the amount and quality of habitat at the site level. A 90x90m raster grid is used as the unit in which to assign habitat condition values across NSW using a range of data inputs and expert interpretation of their condition relationship. This indicator product is based on an existing deterministic model of vegetation condition for NSW designed to inform an analysis of the biodiversity benefits of native vegetation management (Drielsma et al. 2013). That earlier model of vegetation condition (henceforth 'NVM condition model') was itself partially informed by the State of the Catchment (SoC) vegetation condition model for NSW (Dillon et al. 2011) which applied the VAST framework (Thackway & Lesslie 2006) to ALUM classified land use mapping (Australian Government 2006) and vegetation cover. It also incorporated novel methods developed to model native vegetation condition for the Great Eastern Ranges (Drielsma et al. 2010). The NVM condition model was developed using a 250m raster grid as the unit to assign values. The data, knowledge and processes used previously, have been reviewed and either updated where improved information exists, or further refined to develop this ecological condition indicator (3.1a). While the process for modelling ecological condition is both similar to, and builds on prior approaches used to model vegetation condition across NSW (Dillon et al. 2011, Drielsma et al. 2013), it differs conceptually to earlier models. Its intent is to directly infer the amount and quality of habitat from what is known and measurable rather than attempting to resolve unknown quantities or qualities relating to vegetation structure, function and composition, which are common proxies for habitat condition, relative to a reference state. The heuristic model is not designed to provide measures of whether the vegetation occurring at each site is structurally, functionally or compositionally intact, or degraded to some degree relative to an ideal state or benchmark. (Though these factors are considered to the extent that they can be measured.) Rather, the model is designed to directly estimate the amount and quality of generalised habitat for native species and ecosystems at each location, directly inferred from relevant available information. Conceptually, ecological condition relates to the capacity of an area to provide the structures and functions necessary for the persistence of plant and animal species relative to what would be expected to occur at that location if it were still in a natural state (Lyon et al. 2016). The approach addresses the challenge of quantifying this across a large and heterogeneous region by synthesising multiple lines of evidence. In some instances, characteristics can very nearly be directly measured using remote sensing; in other cases, characteristics can only be inferred imperfectly from proxy information. The approach therefore provides our best estimate of ecological condition using available data, but its reliability will vary across space, environments, and across habitat components present at any site. Work is underway to quantify reliability. For more information and identification of the data used in the indicator refer to the work flow and implementation report in the data package.

Limitations on public access

Responsible party

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Responsible party role	pointOfContact

Metadata point of contact

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Metadata language