Title	Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855
Alternative title(s)	HunterGreater_v4_E_3855
Abstract	The GHM geodatabase builds on a wealth of information and previous mapping from the Hunter region. Existing field data, mapping, classification and remote sensing interpretation were augmented with new survey data to produce the vegetation community classification used in this project. The classification used a series of well documented analyses as well as expert review to achieve its end-point. The GHM geodatabase contains two principal vegetation layers. The GHM Vegetation Type layer and the Canopy Cover (v2) layer (individual tree crowns or clumps of tree crowns). The GHM also contains field plot localities, associated species information and plot-specific photographs. Data specific to each polygon (e.g. crown cover) and to each native vegetation community type (e.g. common name, scientific name) are included. Polygons, the fundamental spatial units, are built from computer-based feature recognition which delineates landscapes patterns. The GHM Vegetation Type map is built by attributing individual polygons with vegetation type from the GHM floristic classification through a multi-stage process. The process includes visual interpretation of SPOT 5 and ADS40 imagery as well as species distribution modelling and expert review. The project included a review of existing mapping and classification and established equivalences between these and the GHM Classification. VIS ID 3855

Resource locator

Show on SEED Web Map	Name: Show on SEED Web Map
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Display dataset on SEED's map
	Function: download
Data Quality Statement	Name: Data Quality Statement
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	DQS - Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855
	Function: download
Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855 Documentation	Name: Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855 Documentation
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Download Document Package
	Function: download
Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855	Name: Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Download Shapefile data Package
	Function: download
Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855 Geodatabase	Name: Greater Hunter Native Vegetation Mapping v4.0. VIS ID 3855 Geodatabase
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	Download Esri Geodatabase Package
	Function: download
WMS	Name: WMS

Protocol: WWW:DOWNLOAD-1.0-http--download

Description:

Web Map Service

Function: download

REST Service	Name: REST Service
	Protocol: WWW:DOWNLOAD-1.0-http--download
	Description:
	ESRI REST Services directory
	Function: download

Unique resource identifier

| Code | fe4f109f-7b7b-4932-974f-4df1f9112333 |

| Presentation form | mapDigital |

| Edition | Not known |

| Dataset language | eng |

Metadata standard

| Name | ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005, Geographic information - Metadata |
| Version | 1.1 |

| Dataset URI | https://datasets.seed.nsw.gov.au/dataset/fe4f109f-7b7b-4932-974f-4df1f9112333 |

| Purpose | To classify and map native vegetation communities across the greater Hunter region, including Hawkesbury Nepean CMA. The classification is intended to be integrated into the NSW Plant Community Type Classification for use in NSW assessment and regulatory tools. Version 4 of the map and classification should be regarded as draft, and may undergo minor changes as it is integrated into the NSW PCT and subsequent tools. |

| Status | underDevelopment |

Spatial representation

| Type | vector |

Spatial reference system

| Authority code | GDA94 / MGAZone 56 |
| Code identifying the spatial reference system | 28356 |

| Equivalent scale | 1:None |

| Additional information source | Greater Hunter Native Vegetation Mapping v4.0 is a draft dataset undergoing review. The vegetation types represented will not be altered but their distribution may be subject to change.This project was funded by Catchment Action NSW, with additional funding and material contributions from the Office of Environment and Heritage, |

Topic category	Biota

Keyword set

keyword value	VEGETATION

Originating controlled vocabulary

Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	149.501157
East bounding longitude	152.805743
North bounding latitude	-33.593445
South bounding latitude	-30.998426

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	2005-01-01
End position	N/A

Dataset reference date

Date type	creation
Effective date	2012-06-30
Date type	publication
Effective date	2012-06-30
Date type	revision
Effective date	2012-11-30

Resource maintenance

Maintenance and update frequency	biannually

Contact info

Organisation name	Department of Planning, Industry and Environment
Full postal address	PO Box A290

Sydney South

NSW

1232

Australia

data.broker@environment.nsw.gov.au

Telephone number	131555
Facsimile number	02 9995 5999
Email address	data.broker@environment.nsw.gov.au
Responsible party role	pointOfContact

Lineage

Vegetation patterns at the stand scale were delineated using automated feature recognition software. Definiens eCognition was used to define segments with low internal variation (low heterogeneity). Pan-sharpened SPOT5 data (5m) from multiple years formed the basis of the segmentation. The data had been pre-processed to accentuate the range of spectral responses or colours. The spatial resolution is 5m and the minimum mappable unit was set to 400m2. The polygon boundaries have been smoothed and narrow slivers were eliminated. There were two stages in the feature recognition approach. The first stage was optimised to differentiate woody and non-woody vegetation. The second stage was optimised to differentiate vegetation patterns within the extent of woody vegetation. The first stage employed multi-temporal pan-sharpened SPOT - 5 data (5m). Only the red band (610-680nm) from each SPOT image was used to maximise the characteristic stability of woody vegetation over time. Each object was then classified as woody, non-woody and 'other' using the Crown Cover v2 layer and visual interpretation. For stage two the boundaries within the woody vegetation were dissolved and new objects were created within their boundaries using stretched, multi-temporal imagery. The contrast of all bands was increased using an adaptive equalisation stretch to maximise the separability of discrete vegetation patches within mosaics. The vegetation map was created by attributing vegetation polygons with a vegetation type. There are multiple stages involved but the fundamental steps are as follows: Survey sites that meet quality criteria are assigned a GHM type label using PATN analysis. Vegetation map units were defined using a hierarchical modelling approach that included the manual allocation of Keith Formation using visual identification, the use of a species distribution model to calculate the probability of GHM type in each polygon using environmental layers and a set of expert rules is developed to combine the formation classification and the modelled results. The results undergo visual quality assurance, again using manual image interpretation.

Constraint set

Use constraints	This data is provided under a Creative Commons Attribution 4.0 licence http://creativecommons.org/licenses/by/4.0 Attribute 'Office of Environment and Heritage (OEH)' in publications using this data.
Limitations on public access	

Scope	dataset

Completeness Commission

Date type	revision
Effective date	2001-01-01
Explanation	As with almost all vegetation modelling exercises, the short-coming of having too few samples per community was an issue in the Hunter. 243 PCT's were identified in the Hunter region, with the number of plots per PCT ranging from 0 to 155; and only 53 PCT's having 30 or more plots. All PCT's with plot data were modelled (236 PCT's); however the results of PCT's with low samples sizes have not been validated. 5297 site records with 2050 taxa were used in the model. 20% of sites were allocated for validation were removed. Consistent with the DECCW Native Vegetation Interim Type Standard (Sivertsen, 2009), the test plots were used to quantify the performance of the final result on the basis of the number of GHM community types mapped in three classes (see Gopal and Woodcock 1994). In preparation for analysis a table of 'Acceptable Mapping Alternatives' was prepared (see Appendix E). The aim of this table was to identify clusters of structurally and floristically similar communities which for validation purposes are considered interchangeable and 'acceptable errors' in mapping. For example Water Gum Riparian rainforests (MU012) and River Oak riparian forests (MU196) occur both as separate entities as well as mosaics along rivers on the Lower North Coast. Similarly, Spotted Gum communities MU82, 83 and 84 are only discernible on the ground by the frequency of certain species of ironbark and the understory composition. In both these cases distinguishing the individual communities reliably, given the available survey data, ground truthing and remote sensing techniques used, may be beyond available capacity and resources and therefore constitute 'acceptable errors' in mapping . Following Gopal & Woodcock (1994), three categories are recognised: 'CORRECT' where either the first vegetation community assigned in the field validation polygon corresponds with the mapped unit. 'ESSENTIALLY CORRECT' where either the first vegetation community falls within the defined cluster of 'Acceptable Mapping Alternatives' and one of those alternative corresponds to the Mapped MU, it is deemed to be incorrect but acceptable. 'INCORRECT' where the first or alternative does not match the Mapped MU. Of the 1022 available independent survey sites (rapid and full floristic) 65.3% were considered to have the 'CORRECT' or 'ESSENTIALLY CORRECT' GHM type. Details of the validation for each map unit are presented in Appendix D of the Geodatabase Guide.

Completeness Ommission

Date type	revision
Effective date	2001-01-01
Explanation	

Conceptual Consistency

Explanation	Schema rules were influenced by the NSW Interim Vegetataion Type Standard.

Absolute External Positional Accuracy

Explanation	The mapping is based on SPOT 5 data that has been geometrically corrected.The raw digital numbers were pan sharpened (creating a 5m layer). The extent of woody vegetation is based on a classification of SPOT 5 data over three time periods.Geometeric accuracy is commensurate with 1:25,000 scale aerial photographic interpretation.

Non Quantitative Attribute Accuracy

Explanation	Of the 1022 available independent survey sites (rapid and full floristic) 65.3% were considered to have the 'CORRECT' or 'ESSENTIALLY CORRECT' GHM type. Details of the validation for each map unit are presented in Appendix D of the Geodatabase Guide.

Responsible party

Contact position	Data Broker
Organisation name	Department of Planning, Industry and Environment
Full postal address	PO Box A290
	Sydney South
	NSW
	1232
	Australia
	data.broker@environment.nsw.gov.au
Telephone number	131555
Facsimile number	02 9995 5999
Email address	data.broker@environment.nsw.gov.au
Web address	http://www.planning.nsw.gov.au/
Responsible party role	pointOfContact

Metadata point of contact

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	Sydney South
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	Australia
	data.broker@environment.nsw.gov.au
Telephone number	131555
Facsimile number	02 9995 5999
Email address	data.broker@environment.nsw.gov.au
Responsible party role	distributor

Metadata date	2012-06-30
Metadata language	eng