

## Metadata specifications

Category	Element	Comment
<b>Dataset</b>	Title	Land Use Classification of North-West Lower Murray NAP - Mallee and Wimmera Regions
<b>Custodian</b>	Custodian	Department of Primary Industries (DPI)
	Jurisdiction	Victoria
<b>Description</b>	Abstract	<p>This land use map has been prepared under contract for the Lower Murray NAP. The classification scheme followed here was the Australia Land Use Mapping (ALUM) classification version 5 (BRS, 2001). ALUM version 5 was developed by BRS as a modification of Baxter – Russell Classification, in coordination with State agencies.</p> <p>This product is based on information from a number of sources: Corporate Geospatial Data Library (CGDL), DPI regional data sets, VGV Shire Valuation Datasets, SunRise 21 Inc. datasets, satellite imagery, aerial photography, tree cover and field survey information.</p>
	Search Word(s)	Land use, Mallee Catchment, Wimmera Catchment, Lower Murray, land management
	Geographic Extent Name(s)	Lower Murray - Victoria, North-west Victoria, Mallee and Wimmera Catchments.
	OR	
	Geographic Extent Polygon(s)	Minimum latitude: 33.960 S Maximum latitude: 37.374 S Minimum longitude: 140.947 E Maximum longitude: 143.695 E
<b>Data Currency</b>	Beginning date	2000
	Ending date	2005
<b>Dataset Status</b>	Progress	In Progress - <b>Complete</b>
	Maintenance and Update Frequency	Not known
<b>Access</b>	Stored Data Format	Arc/Info coverage
	Available Format	Arc/Info coverage
	Type	
	Access Constraint	Access will be provided by DPI, Mallee CMA, Wimmera CMA, BRS or AFFA
<b>Data Quality</b>	Lineage	<p>Created from</p> <p>(1) CGDL layers (DPI corporate geospatial data library)  <i>Topographic and cadastral data layers</i></p> <ul style="list-style-type: none"> <li>• Digital cadastre 1:25,000 - VicMap Property (July 2003)</li> <li>• Transport - Roads and Rail 1:25,000 - VicMap Transport</li> <li>• Hydrologic features; line &amp; point 1:25,000 - VicMap Hydrology (Sep. 2003)</li> </ul> <p><i>State-wide/Regional land data and mapping layers</i></p> <ul style="list-style-type: none"> <li>• Public Land Management - current legal status of land 1:100,000 – plmmt100 (Sep. 2003)</li> <li>• Tree Cover - 1:25,000 - tree25 (June 2003)</li> </ul> <p>(2) SunRise21 Inc. 1:25,000 Irrigated Horticulture Dataset (Dec. 2003)</p> <p>(3) Valuer-General of Victoria (VGV) Shire Valuation Datasets (Dec. 2002).</p> <p>(4) Fieldwork carried out in November 2004</p> <p>(5) Aerial Photography:</p> <ul style="list-style-type: none"> <li>• Irrigated Horticulture - 1:15,000 &amp; 1:25,000 flown in February &amp; March 2000</li> <li>• Mallee Dryland Agriculture - 1:50,000 flown in March 2003</li> </ul> <p>(6) Satellite Imagery:</p> <ul style="list-style-type: none"> <li>• Landsat 5 ETM - 30m Captured 20/09/2004</li> <li>• Landsat 5 ETM - 30m Captured 27/08/2004</li> </ul> <p>• <b>Inputs and Processes - Draft Landuse Layer</b></p> <p>1. <i>Classification by Shire:</i></p>

The draft classification was first performed on each of the shires that made up the catchment. The VicMap digital cadastre of each shire was first clipped to the catchment boundary before the classification was undertaken. These clipped shires would eventually be merged to form the one whole dataset.

2. *VGV Shire Valuation Dataset:*

The first step in the draft classification process was to use the Land Classification Codes (LCC) that were surveyed by the Valuers for each Shire. The Valuers assign an LCC code to each Property Number (PROPNUM) of a Shire's Vicmap Property cadastre. Using these Property Numbers, the Valuer's Landuse Dataset could then be linked to the corresponding shire's Vicmap Digital Property Cadastre. A Lookup Table was created that assigned an ALUM Classification Code to each of the 265 LCC codes. This Lookup table was then linked to the digital cadastre to provide a base landuse dataset for each shire. As the Valuer's dataset also contained other relevant information pertaining to landuse, this helped with the classification of the anomalies that were present within the LCC Codes (Eg. LCC Code 666 = Mixed Use Farming). Information regarding landuse such as the amount of land that is dryland, irrigated, horticulture, cropping or grazing may also be provided within the dataset, which could then be used to assign an ALUM code to the property. It must be noted that the quality of this information varied from shire to shire.

The product of this Valuer's information made up the base of the draft landuse dataset for each shire.

3. *SunRISE 21 Inc. - 2003 Mallee Irrigated Horticulture:*

After obtaining this dataset, ALUM codes were first assigned to entries in the CATEGORY field. With this information, the dataset was then intersected into the above draft landuse cadastre.

4. *Public Land Management Layer:*

The next step in the process was to classify the public land (i.e. Conservation and natural environments) within each shire. The latest 1:100,000 Public Land Management Layer from the CGDL (September 2003) was overlaid on the digital cadastre and an appropriate ALUM code was then assigned to each corresponding polygon.

• **Inputs and Processes - Final Landuse Layer**

1. *Refinement of Draft Landuse Layer:*

Building upon the Draft Landuse layer, cadastre parcels that remained unclassified or incorrectly classified in the intensive used areas of towns and irrigated horticulture were classified based upon aerial photography and satellite imagery.

2. *Classification of Dryland Agriculture:*

The software package Ecognition, in conjunction with the satellite imagery and fieldwork was used to produce a raster layer that identified cropped and grazed land within the Lower Murray. This process was then checked in the field to verify results and fix anomalies.

3. *Implementation of Dryland Agriculture Raster Layer:*

The refined landuse layer was converted to a raster layer so that the dryland agriculture and tree cover information could be incorporated. Then by utilising a methodology applied by Queensland DPI, the raster layer was converted back into a vector coverage format. This vector version was then further refined into a more traditional product to allow for better compatibility between other state's data.

4. *Merging Datasets:*  
The completed landuse datasets of each shire were then merged together to produce the overall coverage of the catchment extent.

Positional Accuracy 25 – 100 m  
Attribute Accuracy The accuracy of the land use attributes has been determined through a validation procedure. Validation was carried out for each shire, shortly after the completion of the land use data layer. 50 random sample sites were generated for every 245,000Ha. The number of sample sites allocated to each land use was proportional to the area of each land use class in each validation area. Land uses at sample sites were recorded by independent observers. An error matrix was constructed for each validation area, comparing mapped land use to independently observed land use classes. The validation results produce an attribute accuracy of ???.?%. **(Validation is still in progress)**

- Logical Consistency
- **Data Collation**  
Integration of existing datasets containing information relating to landuse including remotely sensed Landsat 5 ETM, aerial photography, DPI/DSE Corporate datasets including cadastre, public land, infrastructure and tree cover, VGV Shire Valuation Datasets and SunRise21 dataset.
  - **Interpretation**  
This stage involved interpreting landuse, by assigning appropriate landuse codes to the source datasets and preparing draft landuse maps for verification and field checking.
  - **Verification**  
Field verification of draft landuse maps included the annotation of field maps on the basis of expert advice and field checking. The primary focus of this activity was to capture agricultural landuse and incorporated extensive windscreen surveys, utilising mobile mapping technology and local knowledge of DPI/DSE and CMA staff.
  - **Final Editing**  
Final editing was carried out using ArcGIS and Ecognition software (remote sensing interpretation) and incorporating field survey datasets, aerial photographic interpretation, and ancillary datasets prepared in Step 1.

Completeness Land Use has been mapped across the full extent of the study area down to a minimum secondary ALUM Version 5 level.

**Contact Information**

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**Metadata Date**

Metadata Date 8<sup>th</sup> July 2005

**Additional Metadata**

Additional Metadata DPI/DSE CGDL Catalogue, 17th Edition, September 2003.

**Additional Information**

Additional Information Key Reference Bureau of Rural Sciences (BRS), 2002, *Land Use Mapping at Catchment Scale: Principles, Procedures and Definitions*, Edition

2, February 2002, BRS Document, Canberra.

**File Transfer  
Details**

Files name(s) and size(s)	Im_lum94geo: 80.70 MB
Number of Records	Im_lum94geo: 107404 (Dissolved version)
File Format	Arc/Info
Field Name Definitions	Main item: lu_code, lu_description, source_scale, source_date, source_desc, luc_date
	Look-up Tables: multiple_uses.lut, working_lucode_v5, source_lut
	Reliability definitions (source.lut):
	1 = Field Mapping/Local Knowledge
	2 = Ancillary Dataset
	3 = Aerial Photography & VG Validation Dataset
	4 = SPOT imagery and Landsat 5 ETM/TM
	5 = Other
Fields Names	Fields names in each file
Update	Full or partial
Date of Creation	June 2005