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Geoscience Australia

National Public and Aboriginal Lands (NPAL) Pre -1998

Product User Guide

**National Mapping Division,
Geoscience Australia**

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For up to date information on *NPAL Pre-1998* refer to the Geoscience Australia website:

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About this product user guide

This product user guide sets out the fundamental concepts and characteristics of *NPAL Pre-1998*. The guide begins with general information and provides more details in later sections. The overview of data content and structure will allow you to make immediate use of the data.

The information in this product user guide was correct at the time of publication and is subject to change. Geoscience Australia assumes no liability resulting from any statements, errors or omissions in the publication or from the use of information contained in this product user guide.

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1 User information

1.1 User support/contact information

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1.2 Geoscience Australia - National Mapping Division

Geoscience Australia is the national agency for geoscience research and spatial information. It serves government and supports the community through its output areas of geoscience for urban centres, oceans and coasts, and regional and rural areas.

The National Mapping Division within Geoscience Australia undertakes national mapping, remote sensing maritime boundary and land information coordination activities in support of Australia's economic and social development.

2 About NPAL Pre-1998

2.1 *NPAL Pre-1998 components*

Your *NPAL Pre-1998* data package has two components which combine to give you a complete data product. The components are:

- **Product user guide**
This guide describes the structure and content of *NPAL Pre-1998*.
- **Data files**
The number of files will vary with the application format of the data.

2.2 *The NPAL Pre-1998 product*

The *NPAL Pre-1998* product is a topologically structured digital spatial database that contains boundary and attribute information for areas within selected land tenure categories. These categories fall into three major groups:

- **Public lands** (State crown lands and Commonwealth-owned lands) broadly classified by primary reservation purpose and subdivided by specific reserve type.
- **Aboriginal lands** comprising private leasehold, freehold and reserves held by or on behalf of Aboriginal communities; and
- **Private lands**, being the balance of freehold and Crown leasehold land. Private lands are not differentiated by type and no cadastral boundaries are included.

The database covers the whole of Australia and for convenience it is separated into state databases. The outer perimeter boundaries for each named reserve, or component reserves, are shown but internal cadastral parcel boundaries are not included.

The primary data sources include State and Commonwealth Government gazettal notices and best available cadastral maps. Boundary information was transferred from plans and cadastral maps to 1:250 000 scale National Topographic Map Series (NTMS) sheet overlays for digitising and scanning. Overlays with a sparse linear network were hand digitised while complicated sheets were scanned. Attribute information was entered into the attribute table from a previous non-spatial database.

The database underwent several changes during its development, including changes to its name and to the land categories collected. However, its original intention for use was to provide a digital coverage of boundaries of land categories for which demand has been established from Commonwealth authorities.

2.3 *Coordinate system*

NPAL Pre-1998 data is available in geographical coordinates (latitude and longitude) in decimal degrees using the Australian Geodetic Datum 1966 (AGD66).

3 Data loading

3.1 Application formats

The *NPAL Pre-1998* data is supplied in three application formats:

- ArcInfo Export;
- ArcView Shapefile; and
- MapInfo mid/mif.

3.2 Description of files

The downloaded *NPAL Pre-1998* package contains the following files.

Table 1: *NPAL Pre-1998* files

Documentation files			
File name	File content		
42339_user_guide.pdf	This user guide		
Data files			
File name	ArcInfo Export (*e00)	ArcView Shapefile (*dbf, *.shp, *.shx)	File content
	File size (KB)	File size (KB)	
Folder: nsw			
nsw_pnt	56	(+_point) 28	National public and Aboriginal lands in New South Wales
nsw1_pal	(*e00 - *.e06) 15 053	(+_chain) 5 356 (+_point) 927 (+_polygon) 8 960	
nsw2_pal	305	(+_chain) 109 (+_point) 7 (+_polygon) 112	
Folder: nt			
ntpoint	69	(+_point) 8	National public and Aboriginal lands in the Northern Territory
ntpoly	(*e00 - *.e02) 2 755	(+_point) 87 (+_polygon) 1 270	
Folder: qld			
qldpoint	385	(+_point) 37	National public and Aboriginal lands in Queensland
qldpoly	(*e00 - *.e04) 10 752	(+_point) 539 (+_polygon) 6 830	
Folder: sa			
sapoint	88	(+_point) 6	National public and Aboriginal lands in South Australia
sapoly	(*e00 - *.e01) 2 857	(+_point) 123 (+_polygon) 1 690	
Folder: tas			
taspoint	195	(+_point) 22	National public and Aboriginal lands in Tasmania.
taspoly	(*e00 - *.e02) 4 895	(+_point) 274 (+_polygon) 2 836	
Folder: vic			
vicpoint	332	(+_point) 5	National public and Aboriginal lands in Victoria
vicpoly	(*e00 - *.e03) 7 270	(+_point) 590 (+_polygon) 4 280	
Folder: wa			

wapoint	75	(+_point) 48	National public and Aboriginal lands in Western Australia
wapoly	(*e00 - *.e07) 16 486	(+_point) 1 208 (+_polygon) 8 868	
Total	61 673 KB/ 60.3 MB	44 220 KB/ 43.2 MB	
File name	MapInfo mid/mif (*.mid, *.mif)	File content	
Folder: nsw			
nsw_pnts	17	National public and Aboriginal lands in New South Wales	
nsw1_l	6		
nsw1_pol	10 650		
nsw2_l	138		
nsw2_pol	143		
Folder: nt			
nt_pnts	5	National public and Aboriginal lands in the Northern Territory	
nt_pol	1 649		
Folder: qld			
qld_l	5 028	National public and Aboriginal lands in Queensland	
qld_pnts	23		
qld_pol	9 103		
Folder: sa			
sa_l	1 014	National public and Aboriginal lands in South Australia	
sa_pnts	4		
sa_pol	2 171		
Folder: tas			
tas_l	2 150	National public and Aboriginal lands in Tasmania	
tas_pnts	13		
tas_pol	3 553		
Folder: vic			
vic_l	2 980	National public and Aboriginal lands in Victoria	
vic_pnts	3		
vic_pol	5 151		
Folder: wa			
wa_pnts	32	National public and Aboriginal lands in Western Australia	
wa_pol	11 060		
Total	54 893 KB/ 53.6 MB		

4 Data characteristics and concepts

4.1 NPAL Pre-1998 essential characteristics

Resolution of coordinates

The horizontal coordinates of the data are given to a resolution of 0.00001 degrees in geographical coordinates (approximately 1 metre on the ground).

Area of coverage

The area of coverage for individual files is as follows:

- one file covers the whole of Australia both onshore and offshore for the latitude limits 8°S to 44°S and longitude limits 110°E to 160°E.
- the other seven files are tiled to state borders each within the extent of the Australia database, ie. each file covers information within a state of Australia and their offshore limits. The only exception is New South Wales file which includes the Australian Capital Territory.

Topological integrity

NPAL Pre-1998 data were tested to ensure that they comply with the rules for topological integrity set out below. Generally the compliance rate ranges between 99.5% and 95% with a 99% confidence. This means that the data have passed the test even if they contain a limited number of errors.

- The data have a node/chain structure. Within a linear network layer or a polygon layer, all linear features are broken by a node at intersections or at the point where an attribute of the feature changes. This is demonstrated in the following diagram.

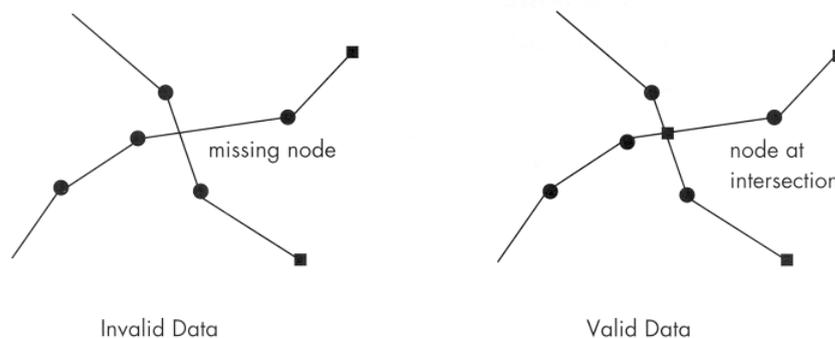


Figure 1: Linear intersections

- Every linear feature instance has a node at each end.
- All polygons are completely closed.
- Every polygon feature contains a polygon label point.
- Polygons in the same layer cannot overlap.
- Within a layer there are no coincident features.
- When two features in separate layers share the same physical position on the source material, they have exactly coincident spatial objects. When this occurs the repeated feature instance has exactly the same coordinates.
- There are no undershoots. This possible error is illustrated below.

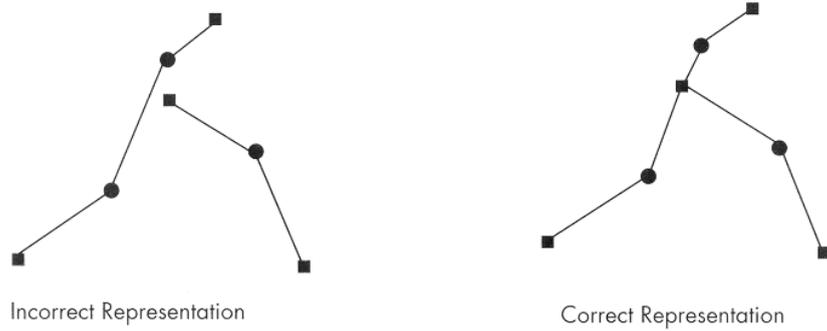


Figure 2: Undershoots

- The spatial data have no overshoots, broken lines or other artefacts of the data capture process. These possible errors in the data are illustrated below.

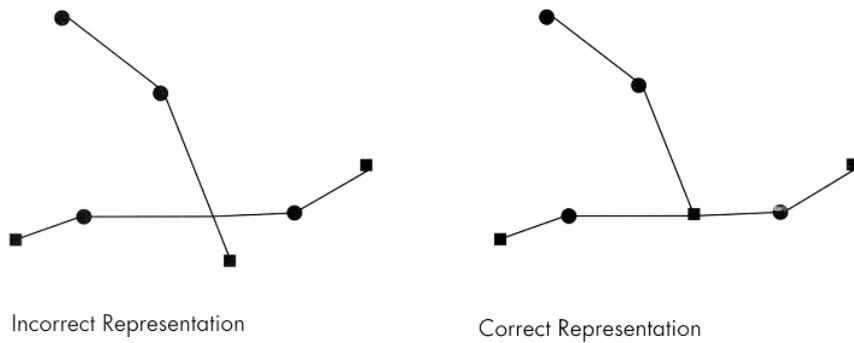


Figure 3: Overshoot



Figure 4: Broken lines



Figure 5: Data spikes

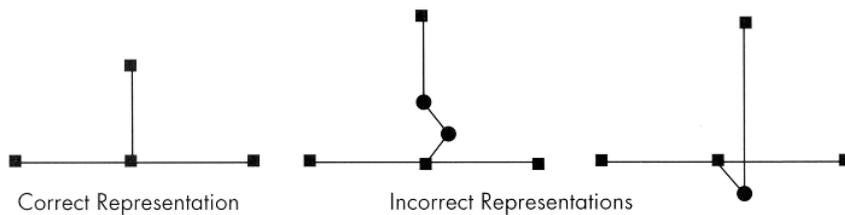


Figure 6: Artefacts in data

Point density reduction

Line features were filtered using a factor of 0.1 of map scale, reducing point density to 25 metres. No line smoothing procedures were used for this data other than filtering of the lines.

Inclusion of features

For most classes, boundaries that have areas of less than 40 hectares have not been digitised. However, for the key land classes, nature conservation reserves, Aboriginal lands and forestry, some smaller reserves have been digitised due to their importance.

Where nature conservation reserves, Aboriginal lands and forestry reserves are too small to have their boundaries plotted at 1:250 000 scale (ie less than 40 hectares), they are represented by a single point feature that records both a spatial location and attribute information about that reserve.

Classification criteria

Public lands and Aboriginal lands in Australia, fall within the six broad classes described in Table 2. All of the classes, except for CLASS 6 - Freehold and crown leasehold land, are unalienated to the ownership by freehold or leasehold of any individual or unincorporated group. However, such land may be subject to temporary grazing leases, occupation licences, etc. Aboriginal lands are those available for use, benefit and residence of Australian Aboriginal and Torres Strait Island people and may be either freehold, leasehold or Crown reserve. In certain circumstances, two of these principle classes may apply to a single land parcel (eg. Aboriginal freehold land leased to a conservation authority as a national park) and multiple feature codes have been created to account for this situation.

Within these classes, there are specific reserve types. For example, reserves for forestry purposes may be one of several specific reserve types (eg. State forest, timber reserve).

Table 2: NPAL Pre-1998 classification categories

Master classification of land tenure	
CLASS 1 Forestry reserve	1a State forest equivalent
	1b Timber reserve
CLASS 2 Environmental protection reserve	2a National Park
	2b Other nature conservation reserve
	2c Water supply reserve
CLASS 3 Institutional land	3a Defence reserve
	3b Aboriginal reserve
	3c Other institutional land
CLASS 4 Mining reserve	
CLASS 5 Other reserved or unreserved crown land	5a Reserved crown land
	5b Vacant crown land
CLASS 6 Freehold and crown leasehold land	6a1 Freehold Aboriginal
	6a2 Leasehold Aboriginal

Class 1 - Forestry reserve

Public lands managed and controlled by State forestry services in accordance with Forestry Acts and regulations (p.325 1986 Australian Yearbook).

1a - State forest or equivalent

Permanent forestry reserves. Primary purpose - timber production and harvesting. These are usually known as State Forests, but include reserved forests (Victoria), and Forest Reserves (South Australia). Note that the term 'State forest' as used in Victoria includes protected forests, (Vic. Forestry Act 3.1), Crown lands administered by the Lands Department and not regarded here as permanent forestry reserves. Permanent forestry reserves can be revoked only with the concurrence

of Parliament. This can be by Act or Resolution (various Forestry Acts: Slinn) or, in the case of forest reserves in SA, by tabling the reasons for revocation in Parliament. (Slinn).

This class contains:

- State forests (NSW, QLD, TAS, WA);
- Reserved forests (Vic);
- Forest reserves (SA,WA); and
- Forestry reserves (ACT).

1b - Timber reserve

Temporary forestry reserves. These are areas of Crown land that have been given temporary reserve status to protect existing timber resources, or to be maintained for the provision of timber supply (e.g. NSW Act, reg. 5). Timber reserves no longer exist in Victoria, having been converted to reserved forests (permanent forestry reserves) (Vic. forestry Act, 42.1). Temporary forestry reserves can be reserved or revoked without reference to Parliament, by gazettal, proclamation etc. (Slinn; various Acts).

This class contains:

- Timber reserves (NSW, QLD, TAS, WA lands and forestry Acts); and
- local government forestry reserves (SA forestry Act).

Class 2 - Environmental protection reserve

Usually administered by State or federal national parks and wildlife services or water supply authorities but includes others such as flora reserves (NSW: Forestry Commission) and Scientific Areas (QLD) and some national parks and nature reserves administered by other authorities, such as the Lands Department in WA, or some local government authorities. Provisions for reserving or revoking national parks and other nature conservation reserves vary from State to State and may be by Act or Resolution of Parliament, proclamation etc.

Water supply reserves are given a separate category within this group because although they share the major characteristic of protecting the natural environment from physical alteration, their purpose is different.

2a - National Park

National Parks are generally large areas, of scenic or other natural significance to the general public. They are permanently reserved as national parks, and public use is encouraged. This class includes National Parks in all States.

2b - Other nature conservation reserve

Includes nature reserves, state recreation areas, conservation parks, environmental parks etc. These are crown lands reserved for more specific environmental conservation purposes such as protection of wildlife, protection of a type of habitat, or preservation of an area with natural features of scientific or recreational value.

2c - Water supply reserve

Crown lands reserved to protect a water supply catchment or accommodate works associated with water supplies. Includes controlled catchments where privately or publicly owned land is used primarily for other purposes but is subject to landuse or access restrictions. Can include areas reserved primarily for water catchment protection, but where secondary interests might be represented.

This includes:

- Catchment areas reserved specifically for domestic water quality protection where access may be restricted (all States);
- Crown land reserved in irrigation supply catchments for erosion/siltation control.; and
- Various Crown reserves vested in water supply authorities, or designated for water supply purposes (e.g. PWP, Water) reserved land associated with government bores etc.- probably all States).

Class 3 - Institutional land

An institute, or institution can be broadly defined as an organization set up to promote or implement some educational, scientific or other activity in the public interest. (Concise Oxford Dictionary; Longman Dictionary of Geography). These organisations often hold large areas of public land to accommodate their activities, which results in a class of reserved public land, vested in a special-purpose organisation, where the focus of interest is on the human activities carried out there, and which need have little or no relationship to the natural features of the land itself. This contrasts with classes 1 and 2 above which, although falling within this general definition, are special cases where the reservation and classification of the land depend entirely upon the nature of the land and its natural resources.

3a - Defence reserve

All land reserved for use by the armed forces for training, research, and military installations. Crown lands designated defence or training areas; military firing ranges; land vested in defence departments; reserved land obviously associated with defence installations e.g. dockyards, barracks etc. (all States).

3b - Aboriginal reserve

These are distinguished from class 6a (land held by Aboriginal communities) by being Crown lands, reserved for Aborigines, but under the control of State Government Aboriginal affairs authorities. (QLD, WA,).

3c - Other institutional land

Other institutional lands reserved for purposes other than those in the other classifications, or being held in reserve pending dedication for some specific purpose.

There are three sub-classes as follows:

- *3c1 - Transport communications and electricity services*; aerodromes, railway yards and shipping terminals, if big enough; power generation sites etc.
- *3c2 - Scientific/research/educational*; state agricultural colleges/research farms, CSIRO research areas etc.
- *3c3 - Other*, miscellaneous areas that cannot be classified but are still crown lands including reserved crown land. Crown lands reserved for purposes other than those in other classes. Contains many different categories of land varying from state to state, but include the following: travelling stock routes; police paddocks; camel paddocks; and road reserves, reserves from sale, reserves for public purposes.

Class 4 - Mining reserve

Crown lands held in reserves for mining.

Class 5 - Other reserved or unreserved crown land

Crown lands reserved for purposes other than those above, or being held in reserve pending dedication for some specific purpose.

Class 5a - Reserved Crown Land

Crown lands reserved for purposes other than those in other classes. Contains many different categories of land varying from State to State, but include the following:

- Travelling stock routes;
- Police paddocks;
- Camel paddocks;
- Road reserves;
- Reserves from sale; and
- Reserves for public purposes.

Class 5b - Vacant crown land

Crown land that is not reserved for any purpose.

Class 6 - Freehold and crown leasehold land

Class 6 represents all privately owned land, differentiated by tenure (freehold or leasehold). This includes as a special class, land owned by Aboriginal communities, but not by individual Aboriginal landowners. This

class (6a) is further subdivided according to whether the group ownership is by freehold or leasehold title. All other freehold and leasehold land is covered by class 6b. In certain circumstances, freehold title can be held by a Government body, such as a State forestry commission when land is purchased to establish forestry plantations.

6a - Land held by Aboriginal communities

Aboriginal freehold and leasehold land is land held by designated Aboriginal communities, with special conditions attached to the titles. Does not include land held privately by individual Aboriginal landowners.

- 6a1 - Freehold Aboriginal title
- 6a2 - Leasehold Aboriginal title

4.2 NPAL Pre-1998 data concepts

Each feature in *NPAL Pre-1998* is defined by a spatial object and an attribute object. These features fit into the hierarchy of theme and layer. At the highest level, associated features are grouped into themes. Themes are subdivided into layers according to the spatial objects used to represent the features.

Vector data

Vector data describes spatial data in which the location of a real world phenomenon is defined by points and straight lines (vectors) between these points. The vector data model used for *NPAL Pre-1998* also includes polygons - areas bounded by straight lines.

Feature-based data

NPAL Pre-1998 uses a feature-based data model described by the following definitions. These are used to describe data that represent phenomena in the real world:

- **Entity:** A real world phenomenon which cannot be divided into phenomena of the same type.
- **Feature instance:** A single occurrence of a feature which has a unique set of spatial and attribute object values.
- **Attribute:** A descriptive characteristic of a feature. Attributes can be spatial (or locational) and aspatial (or non-locational).
- **Attribute value:** A value assigned to an attribute, either for a feature instance or its attributes.
- **Feature class:** A group of feature instances defined by a set of rules and having common attributes and relationships that are the properties of the corresponding real world phenomena.
- **Entity class:** A group of entities of the same kind, matching the members of a feature class.

The structure of a feature instance in the feature based data model can be summarised as:

feature instance = [spatial object + attribute object]

Spatial object

Spatial objects are the locational attributes of the feature. They comprise the special cases of points, chains and polygons. Spatial objects have a spatial address which consists of one or more couplets (x, y) or triplets (x, y, z).

Point

A *point* is a geometric representation defined by a single (x, y) coordinate couplet or a (x, y, z) triplet. Three special points are used.

- **Entity point**
An *entity point* is used to locate point entities, or area entities represented by a point because of the scale of the source material and/or scale of the final product.

- **Polygon label point**

A *polygon label point*, contained within every polygon feature instance, locates information about that polygon. It is linked to the bounding chains of the polygon. In proprietary GIS software packages, this point type is sometimes known as a centroid.



- **Node**

A *node* is a junction of two or more feature instances or an end point of a feature instance. Nodes may carry attribute information.



Chain

A *chain* is a spatial object composed of a sequence of non-intersecting line segments which is bounded by nodes at each end. Chains may carry topological information such as a reference to the polygons to the left and right (with respect to the direction of digitising) and reference the start and end nodes.

A line segment is a straight line between two consecutive vertices in a chain. Each vertex is defined by a single (x, y) coordinate couplet.



Figure 7: Chain spatial object

Polygon

A *polygon* is a bounded, continuous region consisting of an interior area, and an outer boundary defined by a set of chains. A polygon may also contain one or more non-nested inner boundaries also defined by sets of chains.

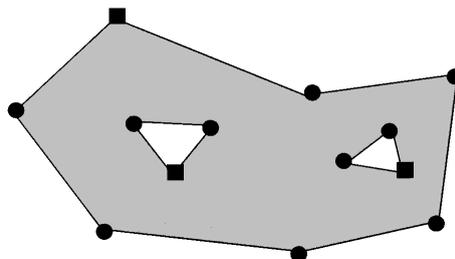


Figure 8: Polygon spatial object

The entity and its spatial object

The spatial object used to depict a feature depends on the size of the entity with respect to the scale of the source material. a very small Aboriginal reserve could be represented as an entity point whereas a large reserve could be represented by a polygon. For this reason, a class of feature may be depicted by more than one type of spatial object.

Attribute object

An *attribute object* identifies the class of feature and the non-locational properties of the feature.

5 Data structure and content

5.1 Data structure

The topological data model for *NPAL Pre-1988* consists of chains, points and polygons. Line segments meet at nodes and connect to form boundaries enclosing polygons which represent specific land parcels within the classification. Additional information about the land parcels is contained in the attribute table.

Centroids are point features within polygons of land that link each polygon and its boundary segments to the information relating to the land parcel in a record and field attribute table. Where a particular reserve (eg. a National Park) is represented by two or more separate polygons, each is given a centroid containing the full attribute record except that only one parcel contains the proclaimed total area.

From the six classes described in Table 2, a total of thirteen possible polygon centroid feature types and an additional three point feature types were generated to create a meaningful set of basic feature types and to cover possible combinations.

Table 3: Feature types

Feature type	Feature	Feature description
Polygon	abor_cent	Aboriginal
	def_cent	Defence
	for_cent	Forestry
	mine_cent	Mining reserve
	multi_cent	Two or more other types applicable
	ncr_cent	Nature conservation reserve
	ocean_cent	Unallocated area of ocean
	other_cent	Other institutional Crown lands
	private_cent	Private lands other than Aboriginal lands
	rcl_cent	Reserved Crown lands (type not specified)
	unknown_cent	Still being determined as database is revised
	vcl_cent	Vacant Crown lands
	water_cent	Water (supply reserves)
Point	abor_place	Aboriginal
	for_place	Forestry
	ncr_place	Nature conservation reserve
Chain	coastline	The level of Mean High Water (MHW) as shown on 250 000 maps
	public_boun	Polygon boundary (including coastline)
	river_close	Closing the coastline across river mouths
	state_border	State borders

Theme

The digital spatial data contained in *NPAL Pre-1998* are primarily derived from existing map production material. The data on the source material are captured as features and these features may be grouped into themes - each containing logically related geographic information. The theme is the highest level of data grouping.

Layer

Each theme may consist of one or more layers. A layer is a grouping of features which have compatible spatial objects. The data may contain four types of layers:

- **Linear network layer**
Linear layers contain linear features such as watercourses. These layers are composed of nodes and chains.
- **Polygon layer**
Polygon layers contain area features represented by polygons, such as lakes and reefs.

- **Point layer**
Point layers contain features that are represented by entity points, such as buildings or aircraft facilities.
- **Point/linear layer**
Point/linear layers contain a combination of entity point and chain features such as road networks with bridges and river networks with waterfalls and locks.

5.2 Data dictionary

Characteristics of the data that are common to all polygon and point features:

- **Identifier (ident)**
A sequentially generated unique identification number for each reserve. An integer field of five digits.
- **Name (name)**
The official (gazetted) name of a reserve or its unofficial name if one exists. Not all reserves have a name. An alphanumeric field of 24 characters.
- **Reserve type (res_type)**
The specific gazetted type of reserve. See Table x for a detailed listing of valid res_type attribute values. An alphanumeric field of four characters.
- **Reserve area (res_area)**
The declared area of the reserve, as opposed to a machine calculated area, recorded to the nearest hectare. A numeric field of eight digits with no decimal place.
- **State (state)**
The State/Territory in which the reserve is located. See table x for a listing of valid state attribute values. An alphanumeric field of two characters.
- **Authority (authority)**
The authority which administers the reserve. See table x for a listing of valid authority attribute values. An alphanumeric field of two characters.
- **Reserve number (res_number)**
The reserve number (if declared) as used by the controlling authority. An alphanumeric field of six characters.
- **Proclaimed (proclaimed)**
Gazettal date of the original proclamation. A date field of seven.
- **Latest gazettal (latest_gaz)**
Date of the latest gazettal. The date of the most recent gazetted amendment or verification by the relevant State authority. A date field of seven.
- **Source (source)**
Contains Geoscience Australia's reference to maps and other documents that relate to the parcel of land. An alphanumeric field of 24 characters.
- **Revised (revised)**
Date of the latest update of land parcel in the *NPAL* database. A date field of seven.

- **Feature code (feature)**
Carries the feature code text for easier translation to other digital formats. An alphanumeric field of twelve.

Characteristics of the data that are common to all chain features:

- **State (state)**
The State/Territory in which the reserve is located. See table x for a listing of valid state attribute values. An alphanumeric field of two characters.
- **Feature code (feature)**
Carries the feature code text for easier translation to other digital formats. An alphanumeric field of twelve.

Table 4: Mandatory attribute table of *NPAL Pre-1998*

Feature	Description	Object	Mandatory attribute	Valid attribute values
ABORIGINAL RESERVE (abor_cent, abor_place)	Aboriginal lands and includes crown reserves, freehold and leasehold land held by Aboriginal communities. Reserves are represented by points where no boundary information is available.	Polygon/Entity point	IDENTIFIER (ident)	
			RESERVE TYPE (res_type)	Valid combinations of authority to reserve types (res_type) include: Res_type Authority ABOR AL, QD ADGT QD AFI LC AFL AA, LC, AL ALG QD ALL QD APL L, AL
COASTLINE (coastline)	A line depicting the boundary between land and sea at the level of Mean High Water (MHW). The line follows the main outline of the land and seaward edge of the mangroves.	Chain	FEATURE (feature)	
			STATE (state)	
DEFENCE RESERVE (def_cent)	Defence land, reserved for use by the armed forces.	Polygon	RESERVE TYPE (res_type)	Valid combinations of authority to reserve types (res_type) include: Res_type Authority DEF DD
			STATE (state)	

Feature	Description	Object	Mandatory attribute	Valid attribute values
FORESTRY RESERVE (for_cent, for_place)	Crown land managed and controlled by State forestry services. Reserves are represented by points where no boundary information is available.	Polygon/entity point	IDENTIFIER (ident)	
			RESERVE TYPE (res_type)	Valid combinations of authority to reserve types (res_type) include: Res_type Authority FP F FR F SF F SPR A, F TR F TRL L
			AUTHORITY (authority)	
			STATE (state)	
MINING RESERVE (mine_cent)	Crown lands held in reserve for mining.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: MINE
			STATE (state)	
MULT-AUTHORITY CONTROLLED RESERVE (multi_cent)	Reserves where there is more than one controlling authority, ie. a combination of feature codes. The data in the attribute table is that for the first two characters of the type code.	Polygon	IDENTIFIER (ident)	
			RESERVE TYPE (res_type)	Valid reserve type values include: FINP MPDF MPFR MPWR NPFR NPWS SFAP SFWS
			STATE (state)	
NATURE CONSERVATION RESERVE (ncr_cent, ncr_place)	Areas that are reserved by an Act or Resolution of Parliament for the purposes of protecting the natural environment. Reserves are represented by points where no boundary information is available.	Polygon/entity point	IDENTIFIER (ident)	

Feature	Description	Object	Mandatory attribute	Valid attribute values																																																																										
			RESERVE TYPE (res_type)	Valid combinations of authority to reserve types (res_type) include: <table border="1"> <thead> <tr> <th data-bbox="1440 300 1621 331">Res_type</th> <th data-bbox="1621 300 2175 331">Authority</th> </tr> </thead> <tbody> <tr><td>AA</td><td>A</td></tr> <tr><td>AP</td><td>A</td></tr> <tr><td>AR</td><td>Z</td></tr> <tr><td>AS</td><td>A</td></tr> <tr><td>CA</td><td>A</td></tr> <tr><td>COP</td><td>A</td></tr> <tr><td>COR</td><td>L</td></tr> <tr><td>CP</td><td>A</td></tr> <tr><td>CR</td><td>A</td></tr> <tr><td>EP</td><td>A, C</td></tr> <tr><td>FAR</td><td>A</td></tr> <tr><td>FFR</td><td>A, F</td></tr> <tr><td>FHR</td><td>PI</td></tr> <tr><td>FLR</td><td>A, F, L</td></tr> <tr><td>FOR</td><td>E</td></tr> <tr><td>FS</td><td>PI</td></tr> <tr><td>GR</td><td>A</td></tr> <tr><td>HR</td><td>A</td></tr> <tr><td>HS</td><td>A</td></tr> <tr><td>MAR</td><td>A</td></tr> <tr><td>MCP</td><td>A</td></tr> <tr><td>MP</td><td>A, D, P</td></tr> <tr><td>MR</td><td>A</td></tr> <tr><td>NAP</td><td>A</td></tr> <tr><td>NNR</td><td>D</td></tr> <tr><td>NP</td><td>A, N</td></tr> <tr><td>NR</td><td>A, C, L, N, P</td></tr> <tr><td>RA</td><td>A, B, C</td></tr> <tr><td>RDR</td><td>F</td></tr> <tr><td>RGR</td><td>A</td></tr> <tr><td>RP</td><td>A</td></tr> <tr><td>SA</td><td>F</td></tr> <tr><td>SCPR</td><td>A, E</td></tr> <tr><td>SCR</td><td>F</td></tr> <tr><td>SP</td><td>A</td></tr> <tr><td>SPR</td><td>A, F</td></tr> </tbody> </table>	Res_type	Authority	AA	A	AP	A	AR	Z	AS	A	CA	A	COP	A	COR	L	CP	A	CR	A	EP	A, C	FAR	A	FFR	A, F	FHR	PI	FLR	A, F, L	FOR	E	FS	PI	GR	A	HR	A	HS	A	MAR	A	MCP	A	MP	A, D, P	MR	A	NAP	A	NNR	D	NP	A, N	NR	A, C, L, N, P	RA	A, B, C	RDR	F	RGR	A	RP	A	SA	F	SCPR	A, E	SCR	F	SP	A	SPR	A, F
Res_type	Authority																																																																													
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AP	A																																																																													
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SCR	F																																																																													
SP	A																																																																													
SPR	A, F																																																																													

Feature	Description	Object	Mandatory attribute	Valid attribute values
				SR A SRA A W A WER PI WR A, B WS A A complete list of attribute values is in Table X.
			STATE (state)	
OCEAN (ocean)	Areas of ocean that are enclosed between the coastline, the seaward edge of declared marine features.	Polygon	STATE (state)	
OTHER CROWN LAND (other_cent)	Areas reserved for educational, scientific and other activities of public interest.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: AIR COM ED INST MIS POW RLY SCI
			STATE (state)	
PRIVATE LAND (private_cent)	Privately owned land undifferentiated by tenure (freehold and leasehold) excluding areas held by Aboriginal communities.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: PRIV
			STATE (state)	
POLYGON BOUNDARY (public_boun)	A line forming the edge of the land allocation polygons.	Chain		
RESERVED CROWN LANDS (rcl_cent)	Crown lands reserved for any other purpose than specified with other feature codes or being held in reserve pending dedication.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: HA HP PA RCL RR

Feature	Description	Object	Mandatory attribute	Valid attribute values
			STATE (state)	
RIVER MOUTHS COASTLINE (river_close)	A line closing the coastline across the river mouth.	Chain		
STATE BORDER (state_border)	A line feature delineating state borders.	Chain	STATE (state)	Valid state values include: OS
UNKNOWN LANDS (unknown_cent)	Used during the maintenance phase to identify parcels of land that need further input from the state authorities to identify their current status.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: UNK
			STATE (state)	
VACANT CROWN LAND (vcl_cent)	Areas of crown land that are not reserved for any purpose.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: VCL
			STATE (state)	
WATER RESERVE (water_cent)	Areas of crown land that are reserved to protect water supplies.	Polygon	RESERVE TYPE (res_type)	Valid reserve type values include: WSR
			STATE (state)	

Attribute values

Type of reserve

The table below shows all the valid values for the type of reserve (inc. tenure) attribute. Unless otherwise indicated by details enclosed by (), a reserve type may occur in all States and Territories of Australia. The Acts, as amended, under which of these reserves are administered are listed as a source to precise definitions.

Table 5: Type of reserve attribute values

Value	Reserve description
AA	Aboriginal Area (NSW: National Parks and Wildlife Act 1974)
ABOR	Aboriginal Reserve (NSW: Crown Lands Consolidation Act 1913, QLD, WA: Land Act 1933)
ADGT	Aboriginal Deed of Grant in Trust (QLD: The Land Act 1962-1988)

Value	Reserve description
AFI	Aboriginal Freehold Land (inalienable): land held by incorporated Aboriginal groups (SA: Pitjantjatjara Land Rights Act 1981; Aboriginal Lands Trust Act 1966-75, NT: Aboriginal Land Rights Act 1976, NSW: Aboriginal Land Rights Act 1984)
AIR	Airport/aerodrome/landing ground (all States)
AFL	Aboriginal Freehold Land (alienable): land held on behalf of incorporated Aboriginal groups (all States)
ALL	Aboriginal held lease other than pastoral (QLD, NSW, SA, WA, NT)
ALG	Aboriginal Local Government Area Lease (QLD)
AP	Aboriginal Place (NSW: National Parks and Wildlife Act 1974)
APL	Aboriginal held pastoral lease (QLD, WA, NT, NSW, SA)
AR	Alpine reserve (VIC: Forests Act 1958)
AS	Aboriginal Site (TAS: National Parks and Wildlife Act 1970)
CA	Conservation area (TAS: National Parks and Wildlife Act 1970)
COM	Communications reserve (all States)
COP	Coastal park (VIC: National Parks Act 1975)
COR	Coastal Reserve (TAS: Crown Land Act 1976)
CP	Conservation Park (SA: National Parks and Wildlife Act 1972-81)
CR	Conservation Reserve (WA: Conservation and Land Management Act 1984, NT: Territory Parks and Wildlife Conservation Act 1980, SA: Crown Lands Act 1929)
DEF	Defence Reserve - All land reserved for use by the armed forces for training, research and military installations (all States)
ED	Educational Reserve (all States)
EP	Environmental Park (QLD: Land Act 1962-86)
FAR	Fauna Reserve (QLD: Fauna Conservation Act 1974-79, Land Act 1962-86)
FFR	Flora and Fauna Reserve (VIC: Crown Land (Reserves) Act 1978)
FINP	Fish Habitat Reserve (QLD: Fisheries Act 1976-84)
FLR	Flora Reserve (NSW: Forestry Act 1916, VIC: Crown Land (Reserves) Act 1978; Forests Act 1958, WA: The Land Act 1933, TAS)
FOR	Fossil Reserve (SA: Crown Lands Act 1929)
FP	Forest Park (VIC: Forests Act 1929)
FR	Forest Reserve (SA: Forestry Act 1950, TAS: Forestry Act 1920 Sec. 20, WA: Conservation and Land Management Act 1984)
FS	Fauna Sanctuary (QLD: Fauna Conservation Act 1974-79)
GR	Game Reserve (SA: National Parks and Wildlife Act 1978-81, TAS: National Parks and Wildlife Act 1970, NT: Territory Parks and Wildlife Conservation Act 1980, NSW)
HA	Historical Area (VIC: Crown Lands (Reserve) Act 1978)
HP	Historical Park (VIC: National Parks Act 1975)
HR	Historical Reserve (TAS: Scenic Preservation Act 1915, NT: Territory Parks and Wildlife Conservation Act 1980, VIC: Crown Lands (Reserve) Act 1978)
HS	Historical Site (NSW: National Parks and Wildlife Act 1974, TAS: National Parks and Wildlife Act 1970, VIC: National Parks Act 1975)
INST	Institutional Reserve (all States)
MAR	Marine Reserve (TAS: Fisheries Act 1959, VIC: Fisheries Act 1975)
MCP	Marine and Coastal Park (VIC: National Parks Act 1975)
MINE	Mining Reserve (all states)

Value	Reserve description
MIS	Miscellaneous Institutional Land (WA, VIC, TAS)
MP	Marine Park (WA: Conservation and Land Management Act 1984, QLD: Marine Park Act 1982; Fisheries Act 1976, NT: Territory Parks and Wildlife Conservation Act 1980)
MPDF	[multi feature] Marine Park/Defence Reserve (QLD)
MPFR	[multi feature] Marine Park/Fish Habitat Reserve (QLD)
MPWR	[multi feature] Marine Park/Wetland Reserve (QLD)
MR	Muttonbird Reserve (TAS: National Parks and Wildlife Act 1970)
NAP	Nature Park (NT: Territory Parks and Wildlife Conservation Act 1980)
NNR	National Nature Reserve (Commonwealth National Park and Wildlife Conservation Act 1975)
NP	National Park (QLD: National Parks and Wildlife Act 1975-84, NSW: National Parks and Wildlife Act 1974, VIC: National Parks Act 1975, TAS: National Parks and Wildlife Act 1970, SA: National Parks and Wildlife Act 1972-81, WA: Conservation and Land Management Act 1984, NT: Territory Parks and Wildlife Conservation Act 1980; Cobourg Peninsula Aboriginal Land Sanctuary Act 1981; National Parks and Wildlife Act 1975)
NPFR	[multi feature] National Park/Fish Habitat Reserve (QLD)
NPWS	[multi feature] National Park/Water Supply Reserve (NSW)
NR	Nature Reserve (NSW: National Parks and Wildlife Act 1974, TAS: National Parks and Wildlife Act 1970, WA: Fauna Conservation Act 1950-75; Land Act 1933; Conservation and Land Management Act 1984)
P	Park (VIC: National Parks Act 1975)
PA	Protected Area (TAS)
PQW	Power Station Reserve (all States)
PR	Parkland Reserve (WA: Land Act 1933)
R	Reserve (WA, NSW)
RA	Reference Area (VIC: Reference Areas Act 1978)
RCL	Reserved Crown Land (all States)
RDR	Roadside Reserve (VIC: Forests Act 1958; Country Roads Act 1958; Crown Lands (Reserves) Act 1978)
RGR	Regional Reserve (SA: National Parks and Wildlife Act 1972)
RLY	Railway Reserve (all States)
RP	Recreation Park (SA: National Parks and Wildlife Act 1972-81)
RR	Recreation Reserve (TAS, VIC: Crown Lands (Reserve) Act 1978)
SA	Scientific Area (QLD)
SCI	Scientific Reserve (WA, QLD, VIC, NT, NSW)
SCPR	Scientific Purposes Reserve (QLD: Land Act 1962-84; Land Amendment Act 1973)
SCR	Scenic Reserve (VIC: Forests Act 1958, TAS: Scenery Preservation Act 1915)
SF	State Forest (NSW: Forestry Act 1916; Forests Act 1958, VIC: Land Act 1933; Conservation and Land Management Act 1984; WA: Forestry Act 1959-1982, QLD: The Forestry Act 1920, TAS)
SFAP	[multi feature] State Forest/Aboriginal Place (NSW)
SFIN	[multi feature] State Forest/Institutional Land (TAS)
SFWS	[multi feature] State Forest/Water Supply Reserve (VIC, NSW, WA)

Value	Reserve description
SP	State Park (VIC: National Parks Act 1975; Wildlife Act 1975; Crown Land (Reserves) Act 1978)
SPR	Special Purpose Reserve (VIC: Forests Act 1958, QLD)
SR	State Reserve (TAS: National Parks and Wildlife Act 1970)
SRA	State Recreation Area (NSW: National Parks and Wildlife Act 1974, TAS: Crown Lands Act 1935)
TR	Timber Reserve (NSW: Forestry Act 1916, QLD: Forestry Act 1959-82, TAS: Forestry Act 1920, WA: Conservation and Land Management Act 1984)
TRL	Timber Reserve (Lands Dept) (WA: Land Act 1933; Conservation and Land Management Act 1984)
VCL	Vacant Crown Land (all states)
W	Wilderness (VIC: National Parks Act 1975)
WER	Wetland Reserve (QLD: Fisheries Act 1976-84)
WR	Wildlife Reserve (VIC: Wildlife Act 1975; Crown Land (Reserves) Act 1978)
WS	Wildlife Sanctuary (TAS: National Parks and Wildlife Act 1970, WA: Fauna Conservation Act Amendment Act 1950-75; Conservation and Land Management Act 1984)
WSR	Water Supply Reserve (all States)

Controlling authority

The table below shows all the valid attributes for the controlling authority attribute.

Table 6: Controlling authority attribute values.

Value	Authority description
A	State/Territory National Parks Service or equivalent
AA	Aboriginal and Torres Strait Islander Commission
AL	Aboriginal Lands Trust
B	State Wildlife authority
C	Local Government authority
D	Australian Nature Conservation Agency (Commonwealth)
DD	Department of Defence (Commonwealth)
E	State Education Department
F	State Forestry Commission
L	State Lands Department
LC	Aboriginal Land Council
N	ACT Parks and Conservation Service
O	Other State or Federal Govt. Organisations
P	Great Barrier Reef Marine Park Authority
PI	State Department of Primary Industry

Value	Authority description
PW	State Department of Water Resources/Public Works
QD	Queensland Department of Family Services and Aboriginal and Islander Affairs
Z	Other (not specified)

State

The table below shows all the valid attributes for the State attribute.

Table 7: State attribute values.

Value	State description
B	Queensland
C	New South Wales
D	Victoria
E	South Australia
F	Western Australia
G	Northern Territory
H	Tasmania
I	ACT/Jervis Bay
OS	Outside of States

6 Data quality information

This section contains information on data accuracy, data sources and geometric characteristics to inform the user of its quality and limitations.

Lineage

Lineage contains a description of the source material, the methods used to derive and capture the data, line filtering, and line smoothing procedures.

Source of the data

Source information for key land tenure classes (including forestry, nature conservation and Aboriginal lands) have been extracted from State and Commonwealth Government gazettes. Declared areas and boundary changes are recorded from gazettals and data holdings are periodically verified by comparison with information obtained from relevant State authorities. The Commonwealth Aboriginal and Torres Strait Islander Commission and State government departments have provided information on Aboriginal-held lands which are not gazetted.

Information relating to institutional, mining and other classes was obtained from published maps but has not been systematically collected and contains little attribute information. Public roads and smaller reserves in urban areas are specifically excluded. The remaining areas are largely freehold land or leasehold Crown lands and are not distinguished.

State borders were derived from survey details and coordinates were directly digitised. State borders following stream lines were digitised from 1:25000, 1:50000 and 1:100000 scale topographic maps. The coastline for the *NPAL* database was redrawn from the 1:250000 scale National Topographic Mapping Series (NTMS) and digitised along with parcel boundaries for each sheet.

Data capture procedures

First cover data was acquired primarily from a previous database maintained in Geoscience Australia through gazettal information. Boundary information was stored on cadastral map sets and individual reserve plans. Boundary information is also regularly supplied by the relevant State authorities in the form of plans, diagrams, dyelines etc. The boundaries were transferred to 1:250 000 scale overlays by optical and photographic reduction. Overlays were checked against original source, corrections made, and were either hand digitised or scanned depending upon the amount of detail in the line network.

Attribute information such as name, type of reserve, area, authority, reserve number, and proclamation date was entered into the attribute table. A unique identification number, source material and the date of data entry were added for internal database maintenance purposes.

Filtering of lines

The filtering of line features was carried out only where the density of points exceeded 1 per metre, due to digitising parameter error (eg. half tunnel width of 0.00001 of map scale- 0.00025 of a metre). A point reduce procedure was applied using a factor of 0.1 of map scale reducing point density to 25 metres.

Line smoothing procedures

No line smoothing procedures were used for this database other than filtering of the lines.

Positional accuracy

The positional accuracy of the *NPAL* database is dependent upon errors from the positional accuracy of the source material and errors due to digitising.

Positional accuracy of the source material

The source material used to derive the *NPAL* boundary data complies with the following statement of positional accuracy:

Not more than 10% of well defined points shall be in error by more than 0.5mm measured on the source material.

To test the above statement we have produced verification plots from the data at 1:250 000 scale and overlaid them on the 1:250 000 NTMS map bases. Map sheets within each State were selected at random and the position of identifiable features compared on plot and map base. The figure below shows the results with the following explanation:

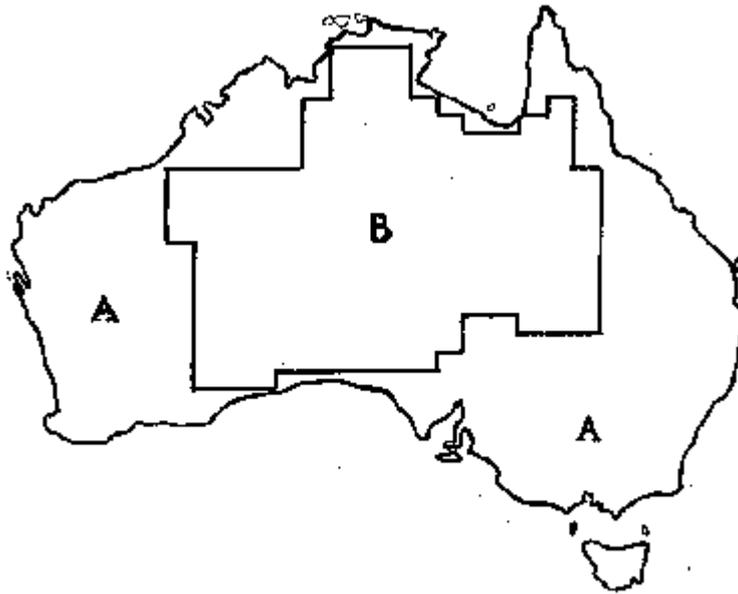


Figure 9: Positional accuracy testing

- Area A All linework captured came from 1:250 000 scale overlays. Random testing of database plots against NTMS bases showed <10% identifiable features fall outside the 0.5mm accuracy standard. This assessment was assisted by the high density of identifiable line features (such as roads, railways). Scanning was used to capture most of the data.
- Area B Most linework was captured from 1:500 000 scale source maps. Random testing against 1:250 000 NTMS bases showed that some sheets gave >10% of features outside threshold values. However, this was difficult to access due to the sparsity of identifiable features. Table digitising was used to capture most of the data.

All subsequent additions and amendments have been captured at scales between 1:25 000 and 1:250 000 and land parcels within area B are being corrected where linework fails the 1:250 000 scale accuracy thresholds.

Digitising accuracy

Geoscience Australia uses both scan and table digitising methods for the capture of source data. Both methods were used for the acquisition of *NPAL* data with a summary below:

Scanning.

The scanning equipment presently used by Geoscience Australia has a resolution of 0.05mm (SCITEX R280 system). The expectation is that the degradation caused by

scanning process will be minimal and will be the result of thinning lines to a coordinate string. This may result in an added error of +/- 0.2mm for the thickest lines digitised. This method was used for most 1:250 000 scale map sheets area shown within Area A of the positional accuracy diagram.

Manual digitising.

Geoscience Australia experience indicates that manual digitising is correct to +/- 0.25mm measured on the source material. This method was used for 1:250 000 scale map sheets shown within Area B of the positional accuracy diagram.

In summary, the positional accuracy of the *NPAL Pre-1998* data is estimated, in the worse case, to be around +/- 1mm at 1:250 000 or 250 metres on the ground.

Attribute accuracy

The data dictionary in Section 5.2 describes each feature in the *NPAL Pre-1998* database. It lists the feature code, definition, mandatory attributes and then lists valid attribute values for particular column/item names. For a given feature code, all attributes listed as mandatory are populated. Entries in other fields depend on source and gazettal availability.

The attribute values described in the data dictionary define each valid attribute value for the type of reserve, state code and controlling authority.

An exhaustive check of each State database has been completed to ensure that only valid features and attributes are supplied. Oracle query tests carried out include:

- check of valid feature codes;
- removal of invalid and system feature codes;
- check for all polygon and point features attached to attribute table;
- tally of all polygons, points, attribute table records;
- check of layer/network assignment of all features; and
- cross-check for invalid feature code/type combinations.

Validation within attribute table:

- invalid entries in all fields;
- null entries in mandatory fields;
- cross-check for valid type/authority combinations;
- removal of field separators within fields;
- internal validation of date fields;
- check for duplicate area values in multi-area polygons; and
- check for case and redundancy in character fields.

Logical consistency

The logical consistency of NPAL databases is defined by validating attributes, topological structure and graphical inconsistency clauses.

Validating attributes

Mandatory attributes for all features contain an entry. For particular features certain column/item names have to contain particular attribute values as listed in the data dictionary in Section 5.2. This has been exhaustively checked using Oracle queries.

Topological structure

Corrections were made to all databases using AMS polygonisation procedures. Iterative corrections were made to correct anomalous line features detected during the BUILD procedure of ArcInfo. Data was considered topologically clean when there were no label and node errors in ArcInfo files.

Graphical inconsistency

Our development software for *NPAL* databases has been GeoVision. In these databases there are no duplicate lines, overshoots or undershoots.

Data completeness

State and Commonwealth gazettes provide information on proclamations, additions to Crown reserves. Completeness is checked through periodic comparison against State authority estate listings for nature conservation reserves, forestry and aboriginal reserves. Information on other Aboriginal lands is obtained through liaison with ATSIC offices and State Land Departments.

Data is collected on a State basis and the completeness and currency of data is summarised below.

Table 8: Data completeness for *NPAL Pre-1998*

Feature	NSW	NT	QLD	SA	TAS	VIC	WA
ABOR	1/90	3/91	6/90	3/91	3/91	3/91	12/90
FOREST	1/90	3/91	3/91	3/91	3/91	3/91	12/90
NCR	1/89	3/91	6/90	3/91	3/91	3/91	12/90
VCL							
RCL	*	3/91	*	*	3/91	3/91	8/87
OTHER							
MINE	*	3/91	*	*	3/91	3/91	8/87
DEF	*	3/91	*	*	3/91	3/91	*
WATER	*	3/91	*	*	3/91	3/91	8/87

NOTE: Where this symbol * is shown above, the land classes other than classes 1, 2 and Aboriginal land (see Chapter 4) have not been systematically collected through gazettal notices. Data has been taken from the best available state cadastral maps.

Appendix A: Metadata

Note: This dataset description is metadata (data about data) which describes the actual dataset in accordance with the ANZLIC (Australia New Zealand Land Information Council) Core Metadata [Guidelines](#) Version 2.

Dataset citation

ANZLIC unique identifier: ANZCW0703005501

Title: National Public and Aboriginal Lands (NPAL) Pre-1998

Custodian

Custodian: Geoscience Australia

Jurisdiction: Australia

Description

Abstract:

Contains boundary and attribute information for parcels of public, Aboriginal and Torres Strait Islander land in Australia which are greater than 40 hectares. Selected smaller areas are shown by point locations (includes nature reserves, forests and Aboriginal land). The public lands and Aboriginal lands fall within six broad reserve classes:

- Forestry;
- Environmental protection;
- Institutional;
- Mining;
- Other reserved and unreserved Crown land; and
- Freehold or Crown leasehold land.

Attribute information includes (as applicable to the type of reserve)

- State and reserve name;
- Reserve type;
- Administering authority;
- Size (in hectares);
- Identification number; and
- Dates of original proclamation and latest update.

Note: Data have not been verified by State authorities.

ANZLIC search words:

- BOUNDARIES Administrative Mapping
- FORESTS Conservation Mapping
- LAND Cadastre Mapping
- LAND Use Conservation Reserve

Geographic extent name:

AUSTRALIA EXCLUDING EXTERNAL TERRITORIES - AUS - Australia - Australia

Note: The format for each Geographic extent name is: Name - Identifier - Category - Jurisdiction (as appropriate) See [GEN Register](#)

Geographic bounding box:

North bounding latitude: -9°

South bounding latitude: -44°

East bounding longitude: 154°
West bounding longitude: 112°

Data currency

Beginning date: 1985-06-01

Ending date: 1997-01-01

Dataset status

Progress: Complete

Maintenance and update frequency: Not Known

Access

Stored data format:

Digital: ArcInfo

Available format type:

Digital: ArcInfo Export

Digital: ArcView Shapefile

Digital: MapInfo mid/mif

Access constraints:

The data are subject to Copyright. Data files may be downloaded from Geoscience Australia's website at www.ga.gov.au/download/. A licence agreement is required.

Data quality

Lineage:

Data were collected primarily for national 1:250 000 scale mapping purposes. Source information for key land tenure classes (including forestry, nature conservation and Aboriginal lands) have been extracted from State and Commonwealth Government gazettes. Declared areas and boundary changes are recorded from gazettals and data holdings are periodically verified by comparison with information obtained from relevant State authorities. The Commonwealth Aboriginal and Torres Strait Islander Commission and State government departments have provided information on Aboriginal-held lands which are not gazetted. Information relating to institutional, mining and other classes was obtained from published maps but has not been systematically collected and contains little attribute information. Public roads and smaller reserves in urban areas are specifically excluded. The remaining areas are largely freehold land or leasehold Crown lands and are not distinguished. Other information was obtained from published maps and Geoscience Australia's National Topographic Mapping Series (NTMS).

Positional accuracy:

State borders were derived from survey details and coordinates were directly digitised. State borders following stream lines were digitised from 1:25 000, 1:50 000 and 1:100 000 scale topographic maps. The coastline for the database was redrawn from the 1:250 000 scale NTMS and digitised along with parcel boundaries for each sheet. First cover data was acquired primarily from a previous database maintained in Geoscience Australia through gazettal information. Boundary information was stored on cadastral map sets and individual reserve plans.

The source material used to derive the NPAL data complies with the following statement of positional accuracy: 'No more than 10% of well-defined points shall be in error by more than 1.5mm measured on the source material'.

Attribute accuracy:

An exhaustive check of each State database has been completed to ensure that only valid features and attributes are supplied. Oracle query tests carried out include:

- check of valid feature codes;
- removal of invalid and system feature codes;
- check for all polygon and point features attached to attribute tables;
- tally of all polygons, points and attribute table records;
- check of layer/network assignment of all features; and
- cross-check for invalid feature code/type combinations.

Logical Consistency:

The logical consistency of the database is defined by validating attributes, topological structure and graphical inconsistency clauses. All mandatory attributes for all features contain an entry. The topological structure is fully complete. There are no duplicate lines, no overshoots or undershoots in the database.

Completeness:

Completeness is checked through periodic comparison against State authority estate listings for nature conservation reserves, forestry reserves and Aboriginal reserves. Information on other Aboriginal lands is obtained through liaison with ATSIC offices and State Land Departments. Data is collected on a state basis and the completeness and currency of data is summarised below.

Category	NSW	NT	QLD	SA	TAS	VIC	WA
Nature conservation reserves	6/97	9/91	9/90	12/90	4/91	4/91	6/90
Forestry reserves	6/97	N/A	3/91	12/90	4/91	4/91	6/90
Aboriginal land	6/97	9/91	9/90	12/90	4/91	4/91	6/90
Water reserves	6/97	3/91	9/87	6/86	4/91	4/91	6/88
Defence reserves	6/97	3/91	9/87	6/86	4/91	4/91	6/88
Mining reserves	6/97	3/91	9/87	6/86	4/91	4/91	6/88

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Metadata information

Metadata date: 2003-04-02

Additional metadata

Metadata reference XHTML: <http://www.ga.gov.au/meta/ANZCW0703005501.html>

Metadata reference XML: <http://www.ga.gov.au/meta/ANZCW0703005501.xml>

Size of dataset: 45.8 - 60.3 MB depending on the format.

Scale/resolution: 1:250 000

Projection/datum: Geographical coordinates using the Australian Geodetic Datum 1966 (AGD66).

Appendix B: Feature statistics

The table below summarises the frequency of every feature code within each *NPAL* database. Please note that this is current as of the release date of the data.

Table 9: Feature statistics for *NPAL Pre-1998*

Feature	AUST	NSW*	NT	QLD	SA	TAS	VIC	WA
abor_cent	730	45	231	141	39	1	5	268
abor_place	241	67	25	69	8	0	1	71
coastline		442						
def_cent	72	21	3	15	5	4	15	11
for_cent	3032	1163	0	636	81	220	506	452
for_place	20	1	0	18	0	0	0	1
mine_cent	59	8	0	5	2	0	17	32
multi_cent	37	0	14	16	0	1	2	0
ncr_cent	3948	622	54	767	339	235	658	1379
ncr_place	503	53	13	103	21	109	22	173
ocean	31	0	0	29	0	0	0	2
other_cent	328	97	7	10	17	81	38	78
private_cent	2334	735	25	235	40	358	438	536
public_boun	31531	6570	839	4660	891	2861	5290	10225
rcl_cent	4578	1018	64	724	50	164	947	1555
river_close		53						
state_border	499	164	46	64	50	0	224	40
unknown_cent		78						
vcl_cent	1952	250	50	199	21	319	343	755
water_cent	1543	83	2	26	44	38	96	1250

Note*: Polygon totals for second cover

Glossary

Attribute

The descriptive characteristic of a feature. An attribute has a defined set of attribute values.

Attribute object

The attribute object holds the non-locational or semantic information about the feature instance.

Australian Geodetic Datum 1966 (AGD66)

This datum was adopted in 1966 and is defined by the parameters of the Australian National Spheroid and the coordinates of the Johnston Geodetic Station. This datum is used for the determination of coordinates for some Geoscience Australia products. Superseded by the Geocentric Datum of Australia 1994 (GDA94).

Chain

A line composed of a sequence of non-intersecting line segments bounded by nodes. Chains reference the polygon to the left and right of the chain.

Datum

A mathematical surface from which heights or positions are referenced.

Entity

A real world phenomenon which cannot be divided into phenomena of the same type.

Entity class

A group of entities of the same kind, matching the members of a feature class.

Entity point

An entity point is used to locate point entities represented by a point because of the scale of the source material.

Feature

A feature is the cartographic or digital representation of a class of entity.

Feature class

A feature class is a group of feature instances defined by a set of rules and having common attributes and relationships that are the properties of the corresponding real world phenomena.

Feature instance

A single occurrence of a feature which has a unique set of spatial and attribute object values.

Geodetic datum

A datum defines the basis of a coordinate system. A local or regional geodetic datum is normally referred to an origin whose coordinates are defined. The datum is associated with a specific reference ellipsoid which best fits the surface (geoid) of the area of interest. A global geodetic datum is now related to the centre of the earth's mass, and its associated spheroid is a best fit to the known size and shape of the whole earth. The position of a point common to two different surveys executed on different geodetic datums will be assigned two different sets of geographical coordinates.

Geographical coordinates

A position given in spherical coordinates commonly known as latitude and longitude.

Geographic Information System (GIS)

A spatial database which is manipulated via a set of spatial operators or commands.

Latitude

The latitude of a feature is its angular distance on a Meridian, measured northwards or southwards from the terrestrial Equator.

Layer

The features in a theme are subdivided into one or more layers on the basis of the spatial objects used to represent the features. Linear networks, polygons and point features are placed in separate layers.

Linear network

A layer consisting of linear features which are connected and which form a pathway along which movement is possible.

Longitude

An angular distance measured east or west from a reference meridian (usually Greenwich) on the earth's surface.

MHW

Mean High Water

National Topographic Map Series (NTMS)

A civilian map series comprising a set of consistent topographic maps nationwide, at scales of 1:100 000 and 1:250 000.

Node

A point that is a junction of two or more chains or which is the end point of a chain. Connectivity of chains is indicated by the sharing of nodes at their intersections.

Node/chain structure

The structuring of linear features in a layer so that they consist of chains broken by nodes at intersections or at the point where an attribute of the feature changes.

Point

A geometric representation defined by a single (x,y) coordinate pair or an (x,y,z) triplet.

Polygon

A continuous area defined by a set of bounding chains. There is only one external polygon and there may be one or more internal, non-nested inner boundaries.

Polygon label point

A point within a polygon feature instance used to locate labels or information about that polygon. This point is sometimes known as a centroid.

Positional accuracy

Statistical estimate of the degree to which planimetric coordinates and elevations of features agree with their real world values.

Projection

Any systematic way of representing the meridians and parallels of the earth upon a plane surface or map.

Segment

A direct line between a pair of points or a point and a node.

Spatial object

The spatial object holds the locational information of a feature instance. It is composed of either a point, chain or polygon.

Theme

The information contained in map production material can be divided into themes which contain logically related geographic information. Each theme is capable of being used as a dataset in its own right.

Vector data

Vector data uses points and straight lines (vectors) to describe features on, or characteristics of, the earth's surface. Vector data can also include polygons, which are areas enclosed by a number of vectors. To record additional information, data attributes can be attached to individual vector features.

Vertex

The connecting point of two line segments.

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