

General Technical Details

The SCDB provides for topologically related point, line, polygon, angle, azimuth, arc and string constructs. All data elements in the SCDB have a unique identification number and textual attributes for each. In addition, the unique identification number provides a linkage to various tenure datasets through a land description stored against each polygon, whether it be a lot number, reserve number or lease number. This also provides a link to details on ownership, address, title, survey plan or diagram, land use, and buying and selling information, etc.

Cadastral boundaries have distances and angles attached to them and the land parcels all have areas. These will only reflect the correct surveyed "legal" dimensions and areas for those land parcels that have been added to the SCDB from digitally lodged surveys or where the existing data has been spatially upgraded (see SCDB Status Indexes). In all other cases the dimensions are derived values calculated from the spatial coordinates within the database.

Integral to the cadastral and tenure data are linked boundaries of administrative areas, such as Local Governments, Local Government Wards, Localities/Suburbs (Post Codes), Townsites, Land Districts, Port Authorities, Marine Parks and Reserves, Infrastructure Corridors, Water Control Areas, State Forests, and State Electoral Districts and Regions. Further administrative areas are being added, such as Marine Harbours and Ports, and Heritage Areas. This also provides a useful tool in identifying potential "areas of interest" for data extraction and demographic studies.

On 1st July 2008 there were 5,594,871 points, 8,360,285 lines, 1,552,288 polygons and 1,761,449 land parcel identifiers stored on the SCDB. Some 3,407,036 points (85.5%) within the cadastral layer current total of 3,984,664 points have been spatially upgraded, as of that date.

System Technical Details

The SCDB resides on Landgate's corporate client/server computing environment, with data stored in an ORACLE relational database on a UNIX server. The efficient storage, management and accessing of the large amount of spatial data within this database environment are handled through the use of ESRI Spatial Data Engine (SDE) technology.

Access to the SCDB for viewing and querying cadastral data as well as for data maintenance is through a single integrated application environment known as SmartPlan (SMP). This also provides access to other related systems such as GESMAR (Geodetic Survey Mark database) and GEONOMA (Geographic Names database). SmartPlan Spatial Browse enables the SCDB data to be viewed in a number of different customised views, each displaying various "layers" of spatial data that can be pre-determined by the end user. Certain land parcel attribute information accessible via SmartPlan comes from SmartRegister, Landgate's digital land title data base system. There will be closer integration between SmartPlan and SmartRegister in the future.

SmartPlan is restricted to Landgate 's internal network, however access to cadastral and tenure data is available through Landgate 's web-based system Landgate. The map viewer available in all of the channels on Landgate incorporates the cadastral and tenure data as well as aerial photography. Landgate accesses data stored on a separate dissemination database that is updated from the main SmartPlan and SmartRegister systems on a daily basis.

SCDB Integrity (Maintenance, Spatial Upgrade, Coastline & Administrative)

Maintenance

The State of Western Australia is one of the fastest developing areas in Australia. The SCDB is constantly updated to keep abreast of new land subdivision developments, the latest inland waterline data and changes to administrative areas. All other modifications to cadastral land holdings, both freehold and Crown, are also recorded in the SCDB.



Spatial Cadastral Database (SCDB)

Spatial Upgrade

Original SCDB line and point coordinate accuracy is no better than 1 mm at map scale, which translates to two (2) metres at 1:2000 and 250 metres at 1:250,000. In order to improve the relative and absolute accuracy of this data, Landgate is undertaking a programme of spatial upgrade. This involves replacing the digitised dimensions with the observed or surveyed measurements and adjusting the position of these boundaries in relation to geodetic control points. Areas that have been upgraded now have point accuracy of ± 0.25 metres or better in urban regions, ± 2.0 metres in rural regions and ± 10 metres in pastoral regions.

Coastal Hydrographic Features

The coastline, including major inlets and incorporating HWM, MHW and LWM where relevant to the cadastre, is integrated from the latest digital topographic data available. Also integrated is the state coastal waters Three (3) Nautical Mile Limit, derived from the AMBIS 2001 dataset.

Administrative Area and Boundary Features

These administrative features are integrally linked to the cadastral boundaries and tenure data, therefore carry the same point/line accuracies and relevancy. They are updated on a daily basis and can be considered as very reliable datasets.

Status of Enhancement Projects

For current progress on the spatial upgrade and enhancement projects, such as coastlines, inland waterlines, special administrative areas and major easements refer to the SCDB Status Indexes.

SCDB Digital Data Availability

Customers can order digital data extracts from the Spatial Cadastral Database in a number of different formats including Landgate's proprietary NORM file format, ESRI Shape files, DGN, DXF and DWG formats. Digital data in Cadastral Survey Data (CSD) format can also be made available if requested. For further details refer to Cadastral and Tenure Digital Data on the Products and Services' Data webpage.

Digital SCDB data is ordered through Landgate's Geospatial Products and Services Section. For further information on availability of data, contact :

Geospatial Data (Geodata)
Telephone: (08) 9273 7045
Fax: (08) 9273 7655
E-mail: geodata@landgate.wa.gov.au

SCDB Technical Information Contact

For further SCDB data and technical information only (Accuracies, Spatial Upgrade, Spatial Projects, Coastline, Inland Waterlines and Administrative Features), contact :

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