



## *Mapping the Way to a Better Environment*

*An article about the Department of the Environment and Water Resources*

If you are an aspiring property developer or a DIY auto mechanic, the digital maps produced by the Australian Government Department of the Environment and Water Resources are increasingly able to answer the questions that might confront you in a society that is growing more environmentally conscious each day.

A big question might be how close is the proposed development to a protected wetlands area in tropical north Queensland? Less strategic but no less important is the question, where do I dispose of the oil from my treasured 1966 Mustang in an environmentally sound way?

By enabling both departmental staff and the public to have Internet access to sophisticated digital maps and reports, the Department has underpinned its role as a key player in helping protect Australia's heritage and environment.

The maps, which are available on the Department's systems, use a comprehensive suite of data from MapData Sciences Pty Ltd (MDS) to supplement its own scientific data sets.

Spearheading the Department's acquisition, management, use and delivery of environmental information is its Environmental Resource Information Network (ERIN). Working with the Department's web developers and database administrators, ERIN manages and delivers online spatial data and database information using geographic information systems (GIS), relational databases, remote sensing and web-servers.

Spatial data manager Robyn Gallagher is responsible for managing the storage of corporate spatial data, both database and file system, metadata for that data, incoming and outgoing data licences and documentation of all data processes.

Ms Gallagher says one of ERIN's key roles is to perform spatial, database and scientific analysis to produce maps, graphs, tables, summaries and reports.

"The Department began to realise the importance of maps and spatial analysis as long as 20 years ago. Some divisions were early pioneers of intranet maps while others are just starting to ask for tools," she said.

The Department is a major user of ESRI GIS software including ArcGIS desktop and ArcIMS. In 2003 it sourced its first data products from MapData Sciences including Roadnet Comprehensive, CADLite and postcode, local government, suburbs, census and electoral boundaries. MDS is also a mapping data partner of ESRI Australia.

The mapping data products are licensed for browser and desktop usage. Departmental staff use maps in their browsers to enforce legislation, decide where and how money should be spent and produce maps and reports for Federal Government ministers.

Outside the Department consultants, developers, state governments, students, educators and the environmentally 'curious' are active visitors to a range of sites.

The Protected Matters Search tool is a good example of a popular and useful mapping application. (<http://www.deh.gov.au/erin/ert/epbc/index.html>) It is designed to assist members of the public to search for matters protected under the Environment Protection and Biodiversity Conservation Act, which came into force in 2000 to comprehensively protect Australia's biodiversity. For a selected area the tool generates a list of protected matters that may occur in or near the area. Users can map an area of interest, such as a development project, overlay on a map places of national environmental significance such as World Heritage properties and internationally significant wetlands and run a report to find where nationally threatened and migratory species occur.

A similar concept, using the same mapping application but tailored to provide a broader range of environmental information to the wider community, is the Environmental Reporting Tool (<http://www.deh.gov.au/erin/ert/index.html>).

One of the more eye-opening but slightly technical sites is the National Pollutant Inventory which allows the visitor to examine emissions as they affect individual postcode areas (<http://www.npi.gov.au>).

Down at street level, the Department's website for the product stewardship of oil

not only advises people how to prepare oil for recycling but provides a map of the nearest used oil facility at which to dispose of the oil (<http://www.oilrecycling.gov.au/index.html>).

The Department is developing a number of related and exciting applications that build on this ability to deliver environmental information to the community.

Ms Gallagher says ERIN receives feedback from various sources which indicates an escalation in use and acceptance of digital maps.

with the aid of web or desktop mapping tools. This is reflected in increasing demands made on us for new applications or additional functionality within an application.

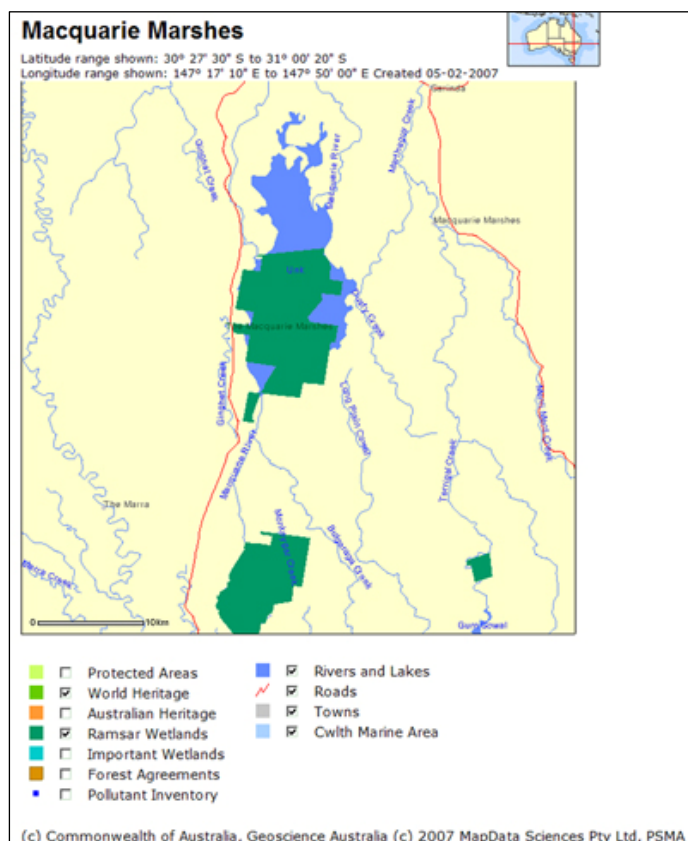


Image provided by Allan Fox and the Department of the Environment and Water Resources

“Our clients are finding it's easier and faster to do their jobs

“Support for digital mapping from external sites comes through emails and enquiries for more information after people have been using the internet pages.”

The importance of the currency and validity of the mapping data is highlighted in the five key evaluation criteria used by the Department to evaluate potential suppliers. Data products from MapData Sciences were chosen on this basis.

The criteria include:

- Completeness of the data package
- Available supply formats
- Completeness of metadata
- Frequency of updates
- Savings for multi-year supply

MDS’ managing director Laurie Edwards said his company strives to ensure the highest quality in its data products to underpin the growing importance of mapping, both to the Department and to the many agencies and organisations which rely on its digital maps.



Image provided by John Baker and the Department of the Environment and Water Resources

MDS Australia mapping products use base data supplied by PSMA Australia Limited, for which MDS is a value-added reseller.

### About MapData Sciences

MapData Sciences Pty Limited is a company specialising in the provision of digital mapping services and software. With offices in Sydney, Australia and Wellington, New Zealand. MDS has a dedicated team of GIS and software professionals who build and maintain digital mapping data products and applications. Specialising in demographics, Where’s the Nearest, Routing, General GIS consulting services and data development projects, MDS has an extensive list of clients involved in the banking, travel, oil, retail and automotive sectors. For more information visit [www.mapds.com.au](http://www.mapds.com.au)

