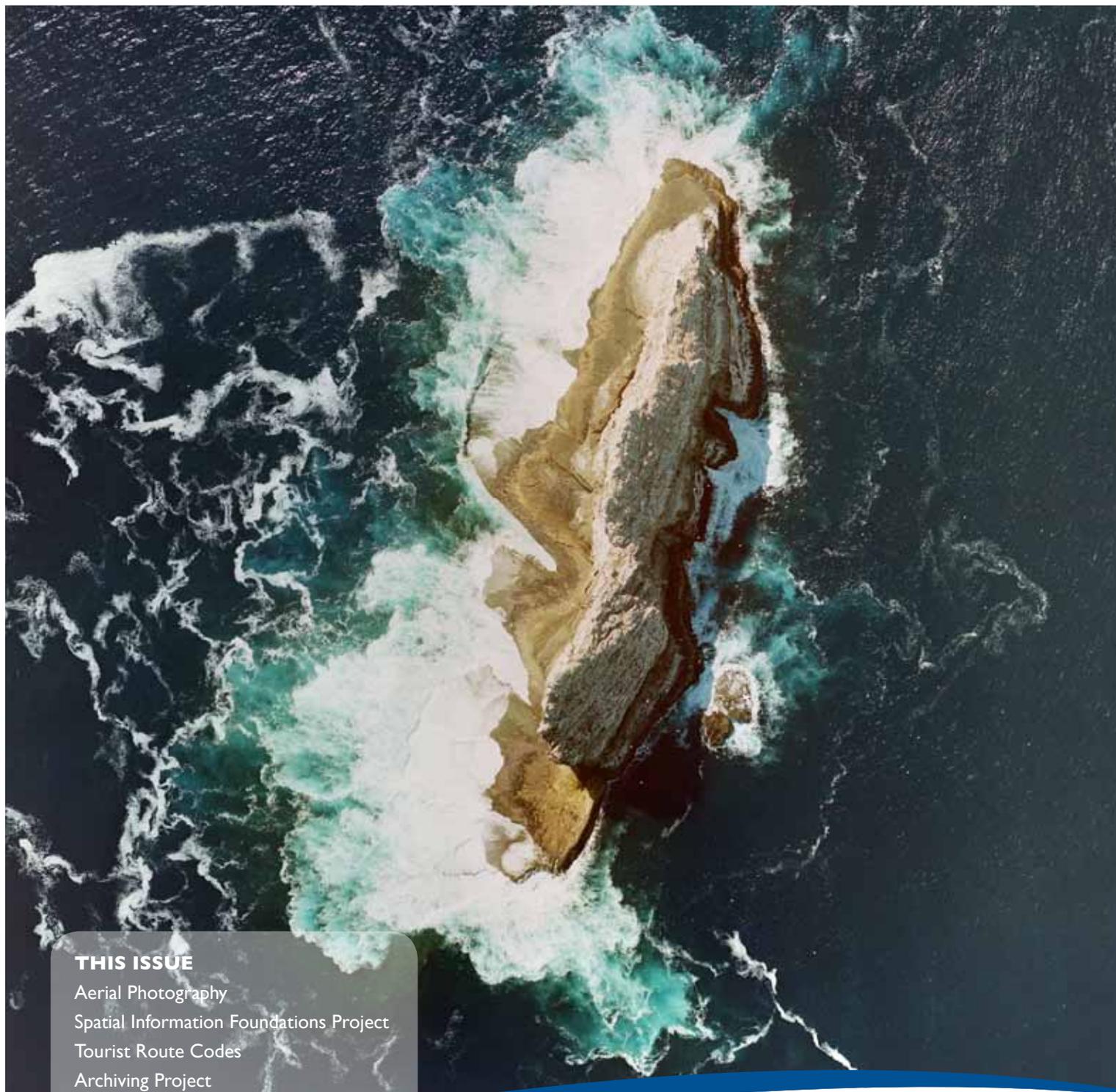


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location *matters*

A *point of reference* for Tasmanian land information



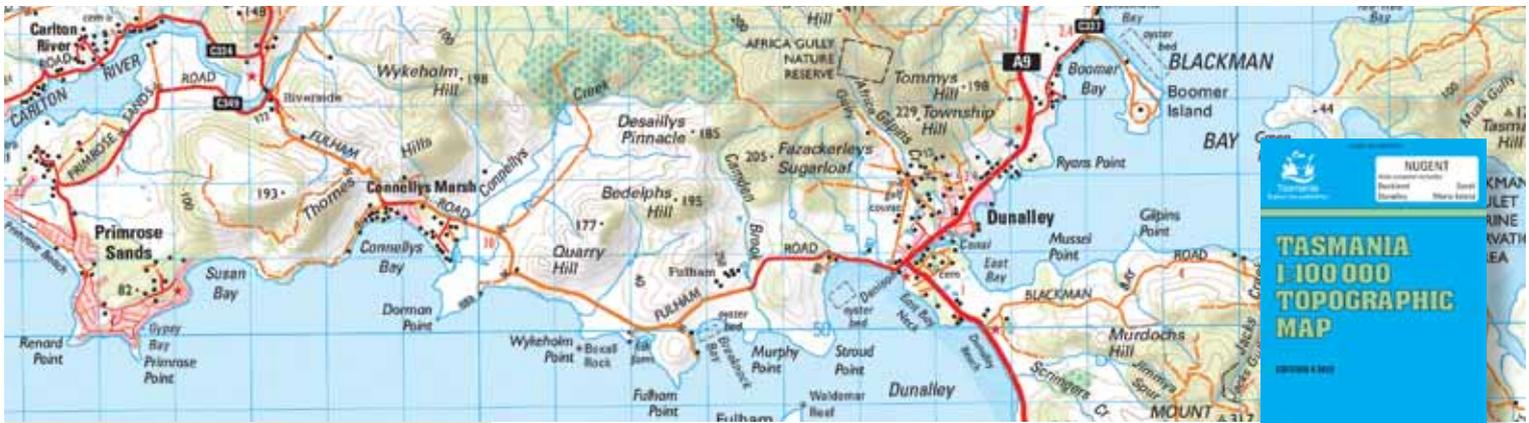
THIS ISSUE

Aerial Photography
Spatial Information Foundations Project
Tourist Route Codes
Archiving Project

Information and Land Services
Department of Primary Industries, Parks, Water and Environment



Tasmania
Explore the possibilities



The new edition of Nugent 1:100 000 Series map - available for purchase from Service Tasmania shops, TSMAP resellers and agents, and online at www.tasmap.tas.gov.au

This newsletter is designed, written, edited and produced by the Information and Land Services Division of the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE).

This newsletter aims to provide technical specialists and the general public with interesting articles and news about land information in Tasmania.

We encourage you to provide feedback or ideas for future issues and hope you take advantage of this opportunity to keep in touch. Comments can be emailed to geodata.clientservices@dPIPWE.tas.gov.au

An electronic version of this publication can be found at:

www.dPIPWE.tas.gov.au/locationmatters

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Cover image

Aerial photo of Pedra Branca, a small rugged island 26 km south of Tasmania, taken at a height of 12 000 feet as part of the Tasmanian coastline replot (see article on aerial photography, page 3).



Message from Kate Kent...



The spatial

information industry has changed significantly over the last twenty years.

The advent and wide appeal of technologies such as *Google Earth*, in-car satellite navigation and hand-held GPS devices have brought the use of location-based information to the fore, bringing with it higher community expectations for more accessible, more accurate government data.

At the same time, governments worldwide have discovered that investment in spatial information is delivering exceptional returns back to the community through more informed decision-making and more targeted, more effective service delivery.

Government agencies are frequently asked for quick responses to natural disasters, environmental crises and security alerts, with decisions that are cost-effective and efficient. Most of the information needed for those decisions is linked to a location.

Not long after the LIST (Land Information System Tasmania) was developed in the 1990s, it had around 140 subscribers, mostly accessing a combination of land titles, property reports and other information about property transactions.

Today, the LIST has 2791 individual user logins, around 800 subscriber accounts, and more than 800 datasets available to users across industries ranging from mining,

forestry and natural resource management to planning, surveying and property development. More and more users are increasingly demanding a greater variety of spatially-enabled information that is easy to find and easy to use.

A critical element of planning and implementation of the Spatial Information Foundations Project has been close collaboration with current and potential users across all these industries, to help determine the type of tools that will encourage more widespread, more effective use of spatial information.

I hope you enjoy this edition of *locationmatters* and encourage you to continue to provide feedback and ideas for future issues.

Kate Kent
General Manager

Information and Land Services Division

Have your say...

locationmatters

aims to keep clients and members of the community informed about new developments and progress with existing projects, as well as introduce you to staff and the work they do.

Please take a few minutes to tell us what you think by completing the short questionnaire at www.dPIPWE.tas.gov.au/locationmatters.

Your feedback will help to ensure that we can continue to provide you with timely, relevant information in the most cost-effective format.

This publication has been printed on Revive Pure Silk, which is 100% recycled and is certified carbon neutral. It is manufactured process chlorine free (PCF) by an ISO 14001 certified mill.

The end of an era

for film-based aerial photography

The closure of the Tasmanian Government's film-based aerial photography program might represent the end of an era, but it is also an important step towards the future – in more ways than one.

With rapid advances in digital technology and a greater variety of options for remotely sensed imagery becoming available, aerial film cameras have become obsolete. Users have also become more sophisticated, with more specific business requirements.

Despite the move away from film, the Information and Land Services Division's (ILS) extensive library of aerial imagery has become increasingly important, especially when assessing changes in our environment over time.

In 1945, Tasmania's first aerial survey program began capturing aerial photography on film, to assist with the Government's mapping programs and meet the needs of other organisations.

Between 1945 and 1947, Adastra Aerial Surveys undertook the first complete aerial survey of Tasmania, under contract to the (former) Lands and Surveys Department. This photography forms a valuable historical baseline for the many subsequent years of imagery capture.

Around 1960, the Department purchased its first aerial film camera, with an aircraft and pilot contracted to carry out the annual aerial survey program. Since that time, thousands of frames of photography have been captured each year.

In 1972, the Government invested around \$200,000 in two Zeiss RMK cameras and associated equipment – a significant investment at that time in what was then considered to be the most precise equipment available.

The 2011-2012 aerial survey flying season ended with a landmark finale for film-based aerial photography, with the successful completion of a two-year program to capture photography of the entire Tasmanian coastline, including offshore rocks and islands. This will enable the coastline to be stereoscopically re-plotted at a higher accuracy, supporting the work of Geoscience Australia in redefining

the Territorial Sea Baseline.

To preserve these and other invaluable records collected over more than seventy years, ILS is currently undertaking a project for the high resolution scanning of the existing library of over 240,000 frames of aerial photography. The project includes compilation of a database that will store technical details of each frame of photography, as well as the coordinate centroid of each photo centre. An online enquiry system is also being developed. This will allow for easy searching, viewing and ordering of scanned images.

As we navigate towards the best path for the future, an independent consultant has been engaged through the Spatial Information Foundations (SIF) project to undertake a review of the current and projected remotely sensed imagery needs of government users in Tasmania. The results of this work will be used to help develop options and recommendations for a vibrant new era of remotely sensed imagery acquisition in Tasmania.

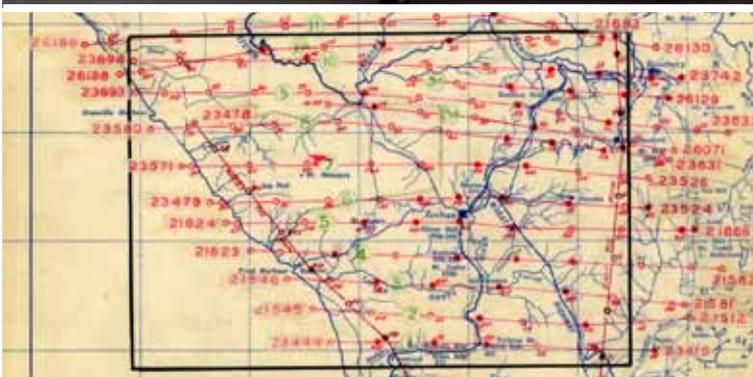
*Andrew Tomes
Manager, Spatial Data*



Left: Airlines of Tasmania's Piper Navajo aircraft chartered by the Department for aerial survey work in Tasmania. Photographed at its base at Cambridge Airport.

Bottom left: One of the early flight line plans, mapping the runs and photo centres, which are now being digitally captured as an index to the aerial photography library.

Below: The Department's Zeiss RMK aerial photography film camera fitted inside the aircraft.



Technological transformation for the LIST.

Land Information System Tasmania.

The Spatial Information Foundations project

is transforming the LIST into a contemporary, web-based platform for the management and distribution of spatial (location-based) information.

For business, industry and the Tasmanian public, the project will provide more efficient tools and better services for the future.

For government, this improved infrastructure will deliver significant benefits, supporting major initiatives and improving the quality and timeliness of policies and decisions, especially in the areas of planning, economic development and emergency management.

Investment where it's needed most

- **A new web interface for the LIST** – for better access to a wider range of spatial information
- **A web-based spatial data and services directory** – making it easier to find spatial data and services for use, analysis and reuse by more users
- **High speed image servers** – for rapid delivery of remotely sensed imagery through a new interface to LISTmap and web services
- **A data management and delivery system** – providing new web-based capabilities for the visualisation and spatial integration of a diverse range of information
- **An address validation service** – for automatic verification and more efficient management of address information within government agencies
- **A web-based spatial data delivery service** – providing new capabilities for downloading and delivering spatial data

- **A web-based emergency services Common Operating Picture for Tasmania** – providing emergency management organisations with an authoritative, shared view of critical emergency and incident information
- **A new Tasmanian property boundary database (numeric cadastre)** – an enhanced cadastral database that is easier to maintain and can be aligned with core administrative data such as planning zones
- **A sustainable strategy for the ongoing acquisition and delivery of remotely sensed imagery for Tasmania** – allowing the detection of changes in the natural and built environment over time

Responding to the needs of the community

The impetus for Spatial Information Foundations (SIF) came from the Tasmanian Government's recognition of the ever-increasing dependence on spatial information across all sectors of the community, and acknowledgement that the existing LIST infrastructure was unable to meet this escalating demand.

In 2011, the use and reuse of spatial information is estimated to have added over \$100 million to the Tasmanian economy¹

Through extensive consultation with a broad range of public and private users and information providers, the Government identified the most urgent priorities and provided funding of \$2.986 million for a two-year infrastructure project to transform the LIST and deliver an integrated range of 'easy to find, easy to use' spatially-enabled data and services.

Preliminary work on the project commenced in December 2011, with completion scheduled for 30 June 2013.

A strong foundation to deliver better services

More effective use of spatial information provides the foundation for widespread benefits across government and private business, industry and academia. The combination of administrative and location-based data can powerfully depict and predict events, graphically illustrate what's happening, how, why and where, and show the actual and potential impact of an event on people, infrastructure and the environment at that location.

Improvements in the LIST infrastructure will help the Tasmanian Government deliver more efficient, cost-effective and targeted services to the right people, in the right place, at the right time.

- **Saving lives and minimising the impact of emergency situations** – by knowing who and what is at risk.
- **Implementing the best options for regional planning and sustainable infrastructure development** – by identifying the location and capacity of existing services, facilities and natural assets, and aligning future development with projected needs.
- **Achieving optimal health care outcomes** – by seeing where the sick or disadvantaged members of the community live and knowing where to locate hospitals, community facilities and mental health centres.
- **Meeting the educational needs of families** – by knowing where the population is growing or declining, and matching that information with the location of educational services and facilities such as public transport and child care centres.

¹ ACIL Tasman, 2011. *The Value of Spatial Information for Tasmania*
[http://www.tassic.org.au/tassic.nsf/file/C58CEF5176F06ACFCA25794F000E1B8A/\\$file/TheValueofSpatialInformationforTasmania.pdf](http://www.tassic.org.au/tassic.nsf/file/C58CEF5176F06ACFCA25794F000E1B8A/$file/TheValueofSpatialInformationforTasmania.pdf)

Collaborative project guidance and specialist expertise

A multiple-agency steering committee has been established to guide and oversee the project. Chaired by DPIPWWE Deputy Secretary, John Whittington, the steering committee includes high level representatives from key contributing agencies across the Tasmanian Government:

- Department of Premier and Cabinet
- Department of Economic Development, Tourism & the Arts
- Department of Infrastructure, Energy & Resources
- Department of Police & Emergency Management
- Department of Justice.

A government-wide reference group is contributing technical advice and an important end-user perspective for the development and implementation of project outputs.

Cross-industry liaison has also been established with related governance bodies including the Tasmanian Government's Agency ICT Reference Group, Tasmanian Spatial Information Council (TASSIC), Tasmanian Government Spatial Committee (TGSC) and the Security and Emergency Management Advisory Group (SEMAG).

The project team draws together key personnel from the Information and Land Services Division of DPIPWWE, reflecting a high level of spatial knowledge and expertise, as well as administrative, project and quality management experience. Each team member has been appointed to deliver and manage product development within their areas of expertise.

Team members are Stuart Fletcher, Andrew Tomes, Aaron Cashion and Todd Baker. Michael Harding is the Project Manager, assisted by Caroline Palfreyman.

More information

Additional information on SIF and the seven inter-dependent sub-projects is available on the DPIPWWE website at www.dpipwe.tas.gov.au/sif.

Regular updates on progress will be issued throughout the duration of the project. If you would like to be added to a distribution list to receive this information, please email sif@dpipwe.tas.gov.au.

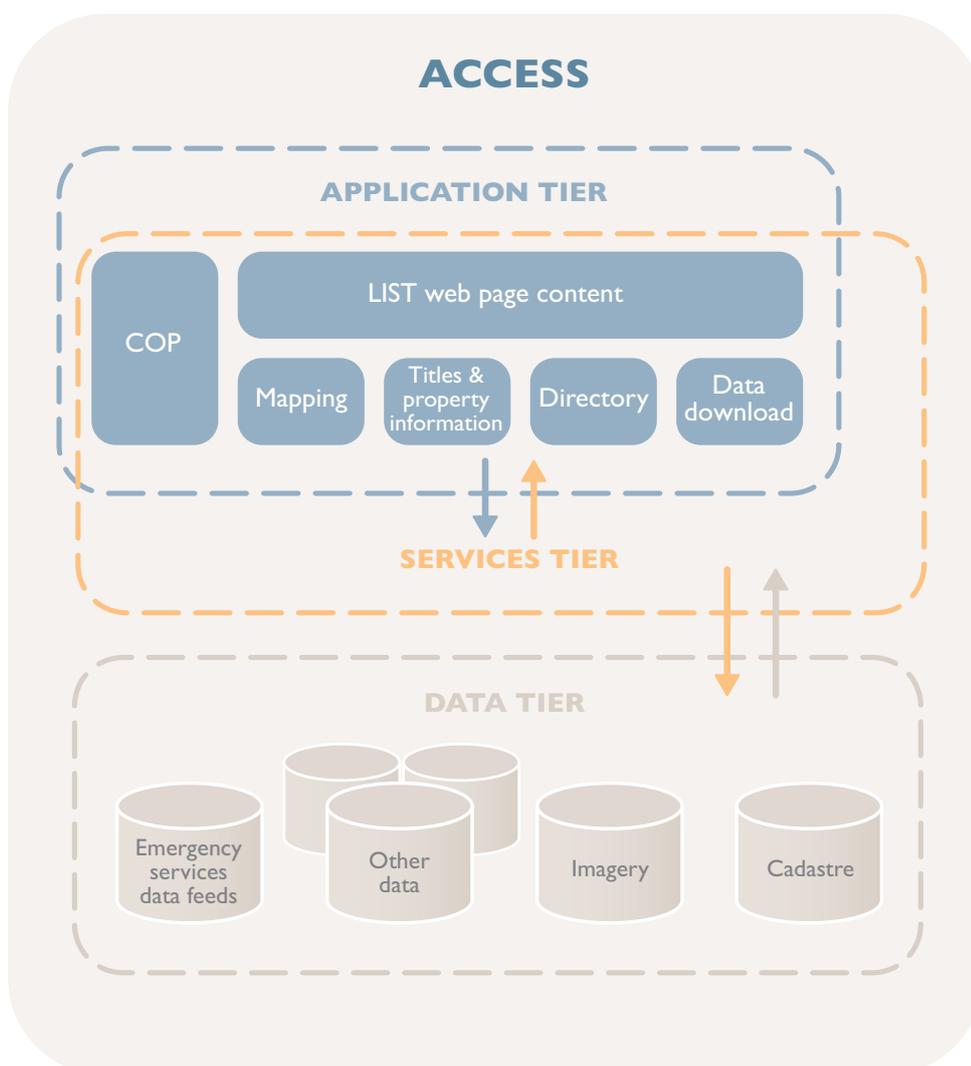
Technical enquiries may be directed to Michael Harding (03) 6233 3223.

For **general enquiries**, contact Caroline Palfreyman (03) 6216 4476.

Coordinated approach to development

SIF is a complex project that is being implemented through **seven parallel and inter-dependent sub-projects**, each with a dedicated manager. Four of these sub-projects (1-4 below) constitute a complete transformation of the LIST technological framework.

1	Services	implementation of new web services for the delivery of spatial data from distributed sources, including address validation services
2	Mapping	development of a modern web mapping interface for the visualisation, analysis and future integration of an increased range of spatially-enabled information
3	Access	development of a structured framework of security and access control to services for viewing and downloading spatial data
4	Directory	delivery of a contemporary, web-based data and services directory that encourages the discovery, access and use of available spatial resources
5	COP	development of a web-based, Common Operating Picture of shared emergency services information for operational planning and incident management
6	Cadastre	migration to an upgraded property boundary database (numeric cadastre) capable of supporting spatially-enabled planning information
7	Imagery	development of a sustainable strategy for the ongoing acquisition and efficient delivery of remotely sensed imagery.



Conceptual representation of the relationship between SIF sub-projects.

Healthy data, happy tourists

TO BASS HIGHWAY (A2) →

maintaining Tasmania's tourist route codes

If Dr Peter Renshaw

could be described as a man on a mission, his mission statement would almost certainly demonstrate his unwavering personal dedication to the maintenance of Tasmania's network of tourist route codes.

From his home in the Launceston suburb of Riverside, Peter has voluntarily logged up countless hours behind the wheel of his car, scrutinising and photographing the State's on-ground route code signage and notifying the relevant authorities when he believes the system is at fault.

Tasmania was the first Australian State to introduce the current tourist route code scheme, which was established in the early 1980's under the auspices of the former Department of Main Roads.

Above: Sign with non-standard design and incorrect information.

Below: Spelling mistakes do occur.

Bottom: Route codes ... what route codes?

Below Right: Dr. Peter Renshaw

Photos by P. Renshaw and S. Laybutt.

Unlike other States, where route coded roads are typically state-owned, the roads that make up Tasmania's tourist route network are owned and maintained by a range of authorities, including the Department of Infrastructure, Energy and Resources (DIER), local government, Hydro Tasmania, Forestry Tasmania and the Parks and Wildlife Service.

Central to the Tasmanian network is National Highway 1 (Brooker Highway, Midland Highway and Bass Highway to Burnie), with a host of other roads classified as A, B or C, for example A2 (Bass Highway from Burnie to Marawah), B68 (Channel Highway) and C616 (Pinnacle Road to the top of Mt Wellington).

Through staff in the Geodata Services Branch, the Department of Primary Industries, Parks, Water & Environment maintains a register of route code descriptions and, importantly, the route code attribute (Tour_class) on the LIST Transport dataset.

Keeping that information in sync with the on-ground signage provided for use by the motoring public is critical and – thanks to Peter Renshaw's diligence – a number of changes have been made to correct anomalies in the data.

Due to the diversity of road ownership in Tasmania's tourist route network, there can also be inconsistencies in the placement, design and information provided by route code signage. Peter has identified numerous problems in all these areas, including one instance where signage had been left in place for decades after that particular route was withdrawn from the network. While DIER sets out the standards for sign placement, design and content, the implementation of those standards is not always consistent.

Peter's direct style continues to raise awareness of the issues involved in maintaining this valuable network. His passion for the task that he has set himself cannot be doubted, and it provides both DPIPW and the motoring public with an invaluable service.

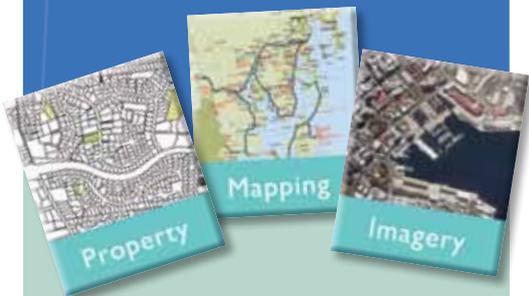
Many of Peter's photos can be viewed on the Ozroads website that is maintained by his mainland colleague, Sam Laybutt (<http://www.ozroads.com.au/>). The website holds a truly amazing collection of road information, including historical and legislative references, statistics and – of course – photographs.

*Greg Baxter
Senior Land Information Officer*



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A fascinating insight

into the early years of Tasmania's colonial history is being systematically captured and preserved for use by future generations through a comprehensive project undertaken by the Information and Land Services Division of DPIPW.

Hobart began its early life as a penal colony in 1803, making it the second oldest city in Australia, after Sydney. This colourful history shaped the nature of many heritage places and precincts – penal, industrial, residential, rural and recreational.

Around 1810, the first of a number of surveys of land were undertaken, with early plans generally showing the position of residences, government buildings, vegetation, streets and waterways. Plans were registered with the Lands Department (now part of DPIPW), where they have been held ever since.

In 2008, an archiving project was initiated, initially focusing on the preservation of this collection of historically significant plans of survey. Over the last four years, staff working on the project have been actively engaged in work to scan, preserve and provide access to the scanned documents.

Along with the capture of Crown plans, deeds, land titles and other historical documents, the project includes a complementary program of work to scan the Tasmanian Government's extensive aerial survey image library.

Tasphoto Services' extensive photographic library – a collection of slides depicting events, places and people in public life – is also being cleaned, re-sleeved, scanned and catalogued.

One of the more exciting project activities has been georeferencing a number of old working charts that show the history of land grants in Tasmania. When viewed in combination with the latest aerial photography and property boundary information, these charts provide a fascinating link from the past to the present.

Reproductions of a selection of early 19th century plans and charts may be ordered for purchase at www.tasmapi.tas.gov.au. Printed on high quality paper, the prints are suitable for laminating or framing.

Archiving progress to date

- **Aerial (archival) photos:** 39,423 photos scanned, indexed and stored
- **Land Titles Office plans/documents:** 62,151 plan images scanned, 54,004 survey note images scanned
- **Valuation records:** 2,831 roll books scanned, 763,681 images captured
- **Tasphoto records:** 65,000 colour transparencies identified for archiving, 9,200 cleaned, 60,579 re-sleeved, 700 transparencies scanned, 4,000 image files embedded with searchable metadata
- **Central Plan Office historic flat and roll plans:** 4,424 historic and survey plans scanned
- **Historic and working plans:** 612 plans spatially georeferenced

Robert Higgins
Manager, Archiving Project



Left: 'Buckingham 14' is one of a set of original plans to be transferred to the Tasmanian Archives Office in July 2012. This plan depicts in great detail the boundary, house, garden and 'meadows' of a large property in New Town (circa 1823).



Tasmania Land Tenure Map

TASMAP has produced a new, limited edition 1:500 000 land tenure map that depicts private land ownership and Crown land reserves (by category) in Tasmania. This map is only available for purchase through the TASMAP website www.tasmap.tas.gov.au.

Price: \$14.95 (including GST)

TASMAP forward program

The forward program for map revision in the TASMAP 1:25 000 and 1:100 000 topographic series is available on the TASMAP website. The program shows maps scheduled for revision over the next 12 months, as well as estimated completion dates. More information can be found at www.tasmap.tas.gov.au.

Historic map for Premier's office

Earlier this year, staff from the Information and Land Services Division of DPIPW presented the office of Premier Lara Giddings with a print of an historic plan depicting Parliament House or 'Customs House' as it was known at that time.

The original 1840 plan is being preserved as part of the archiving project (see article on page 7).



ILS General Manager Kate Kent, Robert Higgins and Premier Lara Giddings.

Commemorating 150 years of the Torrens title system

This year, Tasmania celebrates 150 years of the Torrens system of land title registration. To mark the anniversary, the Land Titles Office produced a limited edition commemorative title for land titles issued in January and February 2012.

The Torrens system was introduced in 1862 to simplify proof of ownership and property transactions in Tasmania.

Before Torrens, property owners needed to prove their ownership of a particular piece of land through documentation going back to the earliest grant by the Crown to the very first owner. All the documents relating to transactions with the land were collectively known as the 'title deeds' or 'chain of title'. Multiple changes in the land's ownership could have occurred over many years since the initial grant. Each transaction would add to the collection of all the previous deeds for the land. With this complex and cumbersome system, a person's ownership could also be challenged, potentially hindering development and causing great legal expense to land owners.

With the introduction of the Torrens system, a land registry was established in Tasmania. A single Certificate of Title was created for each piece of land, with records retained by the Government in the Land Titles Office.

Now used throughout Australia and around the world, the Torrens system was formulated by colonial Premier of South Australia, Sir Robert Torrens, and introduced in South Australia in 1858. The system spread slowly throughout Australia and, much later, overseas. All Australian States now have a land registry or land titles office and use the term 'Torrens Title'.

Above: detail of the new Tasman National Park Map.

New TASMAP products

Recently released map products are now available for purchase online at www.tasmap.tas.gov.au or from Service Tasmania shops, TASMAP resellers and agents.

1:25 000 Topographic/Cadastral Maps

- Binalong
- Burgess
- Crossing
- Mella
- Recherche



1:100 000 Topographic Maps

- Nugent



National Park and Day Walk Maps

- Tasman NP

Other Maps

- Visitors Map
- Tasmania Land Tenure Map



More details about recent releases can be found at www.tasmap.tas.gov.au

Now available online at www.tasmap.tas.gov.au

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